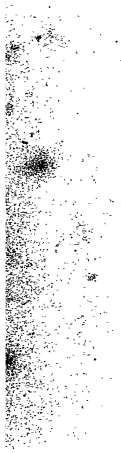
RESULTS

OF

ASTRONOMICAL OBSERVATIONS

MADE AT THE

MELBOURNE OBSERVATORY.



RESULTS

OF

ASTRONOMICAL OBSERVATIONS

MADE AT THE

MELBOURNE OBSERVATORY,

IN THE YEARS

1863 1864 AND 1865,

UNDER THE DIRECTION OF

ROBERT L. J. ELLERY,

GOVERNMENT ASTRONOMER TO THE COLONY OF VICTORIA, AUSTRALIA.

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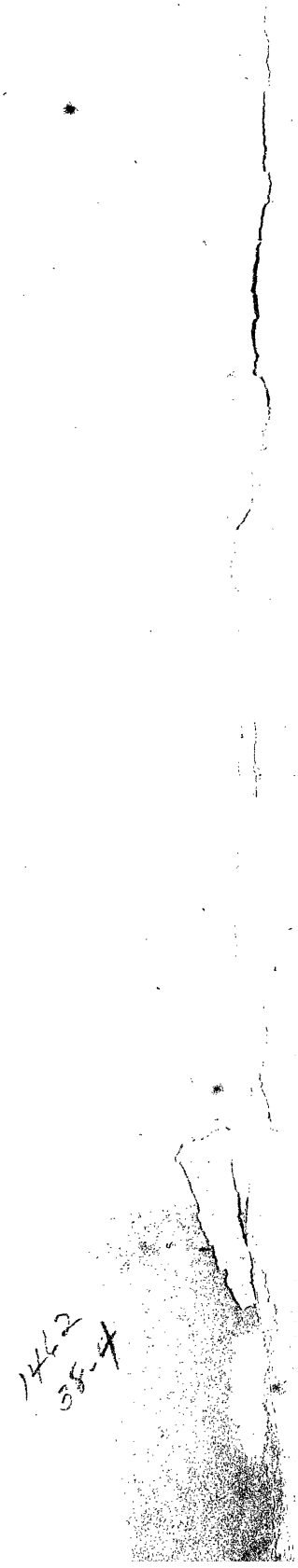

INTRODUCTION.

In June, 1863, the Williamstown Observatory was dismantled, and the instruments and all other appurtenances were removed to the new Observatory, near Melbourne, which had just been completed. The reasons that led to this change of site are set forth in the first volume of the Melbourne Observations.

I. NEW OBSERVATORY.

The new Observatory, or, as it will be now styled, the "Melbourne Observatory," occupies a position about four miles N.E. of the Williamstown site. The site on which it is erected consists of an elliptical enclosure of about $4\frac{1}{2}$ acres, in the midst of an extensive park or reserve. It is in nearly all respects admirably adapted for an Observatory. Being moderately elevated above the surrounding locality, it commands a horizon uninterrupted, except partially on the S. and S.E., where the trees of the Botanic Gardens intervene; it is surrounded by planted grounds reserved for a public park, and is sufficiently far from the city and roads to be free, under ordinary circumstances, from dust, smoke, and vibration. The height of the floor-line is 92 feet above the sea level.

The building, which has been planned with special reference to the requirements of a modern Observatory, is a substantial structure of stuccoed brickwork. The principal apartments are on the ground floor. There

are two underground rooms, each intended for investigations where an equable temperature is of importance. These are now used for chronometers and for an apparatus for comparison of standards of length.

On the ground floor are seven apartments, besides rooms used as workshop and storeroom, separated from the main building by a court-yard. There are also two rooms above the ground floor, one being used as the Meteorological room, access to which is afforded by a flight of stairs in the entrance-hall. These stairs also lead to a door opening on to the nearly flat lead-covered roof, over which is laid a wooden grating, forming a convenient platform as well as a protection from the sun's heat. The second room above stairs is occupied by the equatorial instrument, and has its door opening on to the roof platform. Within the grounds, and at a short distance from the main building, are two smaller buildings of wood, for Magnetical instruments. The one used for absolute determinations is to the west, while that for observations of variations lies to the S.E.; a plot of ground is also set apart for Meteorological instruments. Residences for the Astronomer and Assistant-Astronomer have been erected within the park reserve, contiguous to the Observatory enclosure.

Appended to this volume are, a small map showing the relative positions of the old and new Observatories, a plan of the grounds, and a plan and elevations of the new Observatory.

II. PERSONAL ESTABLISHMENT.

Shortly after the removal of the Observatory from Williamstown, Professor George Neumayer, who had for several years conducted the Magnetical and Meteorological Observatory of the Flagstaff Hill, Melbourne, returned to Europe after completing his magnetic survey of the colony; this led to the combination of the magnetical

and meteorological with the astronomical Observatory, and to the increase in the establishment of assistants by the appointment of Mr. Carl Moerlin (who had been with Professor Neumayer for some years previously) as second assistant. The personal establishment consists therefore of—

Mr. EDWARD J. WHITE, Assistant-Astronomer
Mr. C. MOERLIN, Second Assistant
Mr. JAMES E. GILBERT, Junior Assistant.

The duties of the Observatory have been distributed in the following manner :—The Government Astronomer has taken the full direction and superintendence, and conducted all correspondence of the department.*

The Assistant-Astronomer has had the general charge of the computing and reduction of astronomical observations, and of the various astronomical instruments and adjustments.

The Second Assistant has taken charge of the magnetical and meteorological instruments, and of the observations and computations connected therewith.

The duties of the Junior Assistant have included the work connected with the time signals, comparison of clocks, rating chronometers, and reading off the chronographic records.

The observing has, for the most part, been done by the Government Astronomer and Assistant-Astronomer.

III. INSTRUMENTS.

The Observatory is furnished with the following Astronomical, Magnetical, Meteorological, and other instruments :—

Astronomical.

A Transit Circle (4 feet), with collimators, by Troughton and Simms.

A 42-inch Transit, by Troughton and Simms.

* The Government Astronomer holds the office of Director of the Geodetic Survey.

An 8-feet Prime Vertical Transit, by Ertel and Sons.
A 5-feet Equatorial, by Troughton and Simms.
A Chronographic Apparatus, by Siemens and Halske, of Berlin.
Two Sextants and Artificial Horizons, by Troughton and Simms.
Three Astronomical Clocks, by Frodsham.
One Mean Time Clock, by Evans.
Airy's Zenith Sector, by Troughton and Simms.

Magnetical.

Complete Set of Magnetic Variation Instruments, made at the Royal Observatory at Munich.
Complete Apparatus for determining the differential values in the three magnetic elements, made at the Royal Observatory at Munich, with brass stand for field purposes.
Dip Circle, with four magnets, made by Meyerstein, in Gottingen.

Meteorological.

2 Syphon Barometers, by Greiner.
3 Marine Barometers.
12 Newman's Standard Barometers.
2 Mountain Barometers, on Fortin's principle.
2 Aneroid Barometers.
2 Boiling-point Apparatus, by Greiner.
54 Thermometers, including hygrometers.
20 Maximum Self-registering Thermometers.
23 Minimum do. do.
5 Solar Radiation Thermometers.
2 Thermometers, Maximum and Minimum combined.
4 Underground Thermometers.
7 Daniel's Hygrometers.
27 Raingauges.
1 Evaporation Gauge.

1 Regnault's Hygrometer.
2 Electrometers.*
10-feet Standard Bar.
Standard Yard Measure.
Standard Pound Weight.
Apparatus for comparison of standards of length.

As the present volume is exclusively devoted to astronomical results, the instruments employed in the observations from which they have been deduced will be alone described in this place. They include the Transit Circle, Chronograph, Clocks, and Equatorial.

Description of the Transit Circle.—This instrument has been already fully described in the introduction to the Williamstown catalogue. The following particulars, however, may for convenience be repeated here.

The telescope has an object glass of 5 inches aperture and 72 inches focal length. The horizontal axis is of gun-metal, and consists of a central cube of 10 inches on the side, and two cones, which form one casting; the pivots—also of gun-metal—are fitted on to the cones mechanically in such a way as to render them practically in one piece with the axis. The object and eye ends of the telescope are also fitted and screwed to faces of the cube. The pivots are 3 inches in diameter, and rest in massive Ys of brass, which are adjustable on their beds, one horizontally, the other vertically. The pivots and bearings have closely-fitting covers of thin brass, which effectually exclude the dust. The circle, which is of gun-metal, is four feet in diameter, and is fixed to the axis by means of a conical fitting and truly-faced flange, against which it is screwed. On its outer face a ring of silver is let in flush, which is divided to 5′; inside these divisions and on the gun-metal is another set of 5′ divisions, more coarsely engraved,

* The majority of the Meteorological Instruments are distributed to the various Meteorological Stations established along the coast and throughout the colony.

intended for setting. The face of the circle is slightly bevelled, or dished, to enable the illumination of the microscopes to be made from one central source. The principal weight of the instrument is borne by levers, with counterpoises which tend to lift the axis vertically by means of friction rollers acting in grooves around the cones near the pivots. This is so adjusted that the pivots rest on the Ys with a pressure of about 15 lbs. only.

The eye-piece micrometers are in most respects similar to those in the Greenwich transit circle. The whole system of R.A. wires is movable at right angles to the meridian by means of a micrometer screw, the head of which is protected by a hinged cover, which is always kept closed except when the micrometer is being used for determining the level or collimation error. The slide carries three sets of wires, as follow :—

Wires.	Intervals.
A, B, C, D, E, F, G	14s
α, β, γ, D, ϵ, ζ, η	5·5
I., II., III., D, V., VI., VII.	1·2

The declination micrometer has only one wire. The head is divided into 100 parts, and there is a rack or comb in the diaphragm by which the revolutions of the screw can be counted. By means of two multiple-threaded screws the eye-piece can be moved rapidly across the whole field, both in R.A. and declination. On the eye end of the tube are two insulated rings, carrying a contact key for chronographic registration, which is connected with two insulated rings on the axis by wires carried up within the telescope. On the east pier are fixed a pair of light springs which are in circuit with the chronograph; these press on their respective rings on the axis, and thus maintain metallic connection between the key and chronograph in all positions of the telescope.

For reading the circle there are four microscopes fixed to the west pier, 90° apart, whose micrometers have screws,

five revolutions of which are equal to· 5 minutes on the circle. The screw heads are divided into 60 parts ; each division is therefore equivalent to one second of arc.

The illumination of the field of the telescope, as well as of the parts of the circle under the four microscopes, is effected by means of a single lamp placed on a shelf outside the west pier. For the field illumination the light from the lamp, after being made parallel by a lens, enters the west pivot, and falls on a diagonal reflector in the cube, which is adjustable for any degree of illumination by means of a lever terminating in a stud near the eye end. For the illumination of the circle divisions the light is led around the piers by a system of reflectors to plano convex prisms, which reflect the light on to those parts of the circle under the microscopes. Sharp definition of the divisions can be readily secured by adjusting the prisms so that the light is reflected by the bevelled face of the circle up the axis of the microscopes.

The " setting" of the instrument is done by means of a 6-inch setting circle with a spirit-level, fixed on the telescope tube near the eye end, which is found to be a far more convenient method than using the rough divisions on the large circle for the purpose. As the transit circle is not conveniently reversible, provision is made for the determination of the errors of level and collimation by the aid of two collimating telescopes, and a Bohnenberger's eye-piece for observing the reflection of the wires from a quicksilver surface. The collimating telescopes have object glasses of $2\frac{3}{4}$ inches aperture and 33 inches focal length. The system of wires is exactly similar to that used in the collimators of the Greenwich transit circle, and will therefore need no description here.

The cube of the transit circle is pierced with apertures three inches in diameter, so that when the telescope is vertical, and the aperture covers removed, a clear line

of sight is obtained from one collimator to another without any disturbance of the instrument. For determining the level-error and nadir points, a Bohnenberger's eye-piece is used, the illumination of which is effected by a lamp placed on an adjustable stand on the top of the east pier. A movable stage gives the observer access to the eye-piece for these observations. The mercury is held in a circular cast-iron vessel, supported on a small wooden platform slung by indiarubber bands within a rectangular frame, which is itself slung by four other indiarubber bands to a wooden box standing on the foundation of the piers beneath the floor; when not in use this apparatus is covered by a trap-door, which forms part of the floor. There is no provision for obtaining observations of stars by reflection.

While mounting the transit circle, the pivots were examined as to equality and shape by means of a striding level, and were found to be so nearly perfect that they have been assumed to be equal and cylindrical. A renewed effort to obtain a satisfactory illumination of the wires on a dark field was also made, but with only partial success, for although some of the filaments could be lighted, the whole system was never rendered sufficiently visible for using this style of illumination. I believe this failure is in a great measure due to the extreme fineness of the filaments, especially in the system of close R.A. wires. In using the collimators, daylight, admitted through small windows in the E. wall, is always used for illuminating the wires. The room itself is lighted with gas, but it has not hitherto been used for illuminating the instruments on account of its heating effect.

The division of the circle has been thoroughly examined since its re-erection, first in quadrants, then in arcs of 10°, and finally in arcs of 1°. A description of the mode of examination and of the results will be found on a subsequent page.

The room occupied by this instrument is 22 feet long in the direction of the meridian, 16 feet wide, and 15 feet high. The meridian opening is given by one long roof shutter opening externally, and vertically sliding shutters in the north and south walls. The roof shutter, 22 feet long, is easily lifted and closed by means of a handle on the west wall, connected by a long iron rod with a system of levers and counterpoises. The openings are 1 foot 6 inches wide, and expose the meridian from horizon to horizon.

The piers, similar in all respects to those used at Williamstown, are composed of large finely-cut blocks of basalt, resting on a foundation of larger blocks of the same material, which lie on a fine solid bottom of cemented gravel, about five or six feet below the general surface. The Y beds, microscopes, and other fittings are fastened to the piers by bolts screwed into brass plugs, which are fixed into holes drilled in the stone.

The collimating telescopes are mounted on substantial stone piers within the transit room. Their positions are indicated in the ground plan of the Observatory.

The *Prime Vertical Instrument* does not differ from others of the same kind described in most astronomical works; a description of it here will therefore be scarcely necessary. The object-glass is $6\frac{1}{4}$ inches diameter, and about 100 inches focal length.

Since mounting this instrument, repeated trials to obtain satisfactory results from its use have been made; but owing to defective action of the axis counterpoises, there existed an uncertainty of the pivots always going quite home in their Ys after reversal. This was tried to be remedied by rendering the levers more sensitive, but in no case could the instrument be relied on for a series of observations. It has therefore been but little used in prime vertical observations.

The *Equatorial*, which occupies the dome on the north of the building, was constructed by Messrs. Troughton and

Simms, and has an object-glass of $4\frac{1}{2}$ inches aperture and 5 feet focus; it is mounted in the Fraunhofer style, and is furnished with a very good driving clock. The R.A. Circle, which is 12 inches in diameter, has a double set of divisions on its edge, and is movable on the polar axis. Each set of divisions is read by a pair of verniers to 1 second of time. By this arrangement the circle can be so set that, the clock-work being connected, one set of verniers continues to read sidereal time, while the telescope verniers read Right Ascension. The declination circle is 12 inches in diameter, and is divided to 10′; it is read to 10″ by two verniers. A finder and illuminating apparatus are attached to the telescope. It is furnished also with 6 negative eye-pieces magnifying from 35 to 500 times, a parallel wire Micrometer, a double image Micrometer, Ring Micrometer, and thick wire Micrometer. The pier on which it stands is built of stone and Portland cement, and is carried by a large column of cylindrical blocks of stone, which rises from the basement of the dome, and is arched into the circular wall a few feet below the floor line of the Equatorial Room.

The dome itself is constructed of wood covered with canvas, and revolves on eight fixed wheels, ten inches in diameter, which roll on an iron ring firmly secured to the top of the tower-wall. There are also six guide wheels to keep it central. A travelling platform gives convenient access for observing in all positions.

Clocks.—These consist of three Sidereal Clocks, by Frodsham, of London; and one Mean-time Clock, by Evans, of Birmingham. They have all Graham's mercurial pendulums and dead-beat escapements, and are fitted with contact springs for giving galvanic signals. The standard clock stands in the Transit Room, and is the one regularly employed in the R.A. observations with the Transit Circle. The second clock occupies a pier in the Astronomer's room, and the third sidereal and the mean-time clocks are placed in the Assistant-Astronomer's room.

Each clock has a pair of wires connecting it with the Rheotrope Table.

The *Chronograph*, constructed by Siemens and Halske, of Berlin, was described in the introduction to the Williamstown Observations. The registry takes place on a fillet of paper moving with great regularity between two rollers, as in a Morse's Register, the clockwork of which is controlled by an expanding fly. It has two electro-magnets and armature levers which carry steel styles for indenting the fillet. These styles are allowed to follow the motion of the paper a little by means of delicate springs, any dragging or elongation of the dots on the fillet being thus avoided. A second double electro-magnet enables the observer to start and stop the fillet at will while seated at the telescope; this is effected by using three conducting wires instead of two, the contact of the first and second wires starts the train and records the observer's signals, and the contact between 1 and 3 stops the train. The train is so adjusted that the seconds dots made on the fillet by the transit clock are about three-fourths of an inch apart; a dot is omitted at the 30th and 60th second of each minute, to facilitate counting. In observing, it is usual to start and stop the chronograph for each star, always taking care that a minute or half-minute signal shall have occurred before stopping. This instrument occupies part of a table in the Transit Room, an ordinary Morse's Telegraphic Register, Relay and Key, and an apparatus forming a kind of universal Rheotrope, are also placed on this table. To this Rheotrope are attached conducting wires from the Chronograph, Transit Circle, Equatorial, the various clocks, and the several series of Battery Cells, as well as from the Chief Telegraph Office in Melbourne. By the means of four levers with pointers any circuits that may be required in the Observatory can be readily effected. Any of the clocks can be connected with the Chronograph, and thence with the various telegraph lines of the Colony; thus

signals can be sent directly from the Chronograph along any of the lines, and *vice versa.* This arrangement has proved of great service in the astronomical operations of the Geodetic Survey.

By means of the Morse's Register the Observatory has ordinary telegraphic communication with all places reached by telegraphic lines, which is especially serviceable in obtaining meteorological reports from the various coast stations.

IV. OBSERVATIONS.

Throughout the period embraced by this volume, the observing has been principally confined to the fixed stars. As a rule, neither the sun, moon, nor planets have been observed; occasionally, indeed, an observation of the sun has been made to verify the assumed error of the clock, but only when continuous cloudy nights prevented star observations being made. The observations, the results of which are given on the following pages, have been made for the most part by myself and Mr. White with the transit circle.

It has not been deemed necessary to print the separate observations in full, for the same reasons that were stated in the introduction to the Williamstown Catalogue; and it is believed that the results only, with a clear exposition of the modes by which they are arrived at, will afford all the information likely to be required. The original observations *in extenso* are, of course, carefully preserved, and it is intended to have at least three manuscript copies made, to be preserved in such places as may be thought to be most available for any after-reference.

I now proceed to a description of the methods of determining the various instrumental errors and of using the transit circle generally, the methods of reducing the observations and obtaining the final results.

V. TRANSIT CIRCLE OBSERVATIONS.

Right Ascension.

The error of collimation has been found by means of the two collimators. The transit telescope having been set vertical, and the covers removed from the holes in the cube, the nearly-vertical fine wire of the south collimator is bisected in the space between the two nearly horizontal wires by the nearly-vertical fine wire of the north collimator; ten readings are taken—five when the wire is moved towards the micrometer head, and five from it; the head is then set to the mean of the ten readings. The telescope is now pointed to each of the collimators, and the reading of the R.A. micrometer is noted, when the middle transit wire bisects each nearly-vertical fine wire of the collimators; ten readings are taken of each wire—five in one direction and five in the reverse; the mean of the twenty readings is adopted as the reading of the R.A. micrometer, when the line joining the optical centre of the object-glass and the middle transit wire is at right angles to the axis of rotation of the instrument; this reading is then increased by 4·802 div., to reduce it to the mean of the wires, and finally diminished by 0·797 div. for diurnal aberration; the result is the adopted reading for no collimation error. The micrometer is not necessarily left at this reading, but is usually set to some integral division near it, and the difference, converted into time at the rate of 0·0204 sec. for each division, is considered the collimation error.

The level error is found by comparing the reading of the line of collimation of the centre wire with that of coincidence with its image as reflected from a surface of quicksilver, and viewed by a Bohnenberger's eye-piece; ten readings are taken, five on each side of the wire; the difference is converted into time at the rate of 0·0204 sec. for each division, and the result, with the positive sign

attached to it when the reading of coincidence is the smaller, is adopted as the level correction.

The error of azimuth is always determined by means of transits of circumpolar stars, of which a standard catalogue has been prepared from several years' observation for this special purpose. A star near the pole is compared with one near the equator, or a star above the pole is compared with one below; in each case the observed transits are first corrected for collimation and level error, then the difference between the differences of the corrected transits and the apparent right ascensions is divided by the difference of the azimuth factors, and the quotient is adopted as the azimuth error. In the winter months this error has been more frequently found from consecutive transits of the same circumpolar star, in which case they are first corrected for collimation and level; the first transit is then corrected for rate of the clock and change of the star's right ascension in the interval; the difference between the two corrected transits is then divided by the difference of the azimuth factors as before. When the telescope points to the east of north, the azimuth correction is considered positive.

The pendicularity of the right ascension wires to the axis of rotation was tested by means of the collimator; the upper end of each wire was made to coincide with some point of the collimator wire, and the reading noted; the lower ends were then put on the same point. The readings were so nearly identical as to render no correction necessary.

The error of collimation has been generally determined once in ten or fifteen days, and the intermediate values found by interpolation. The errors of level and azimuth have been found, when practicable, with every set of observations.

The value of the Right Ascension Micrometer was determined in the following manner. The eye end of the telescope was revolved through 90 degrees, and the centre

transit wire made to bisect the nearly horizontal wire of one of the collimators, and the readings of the four microscopes taken; the telescope was then moved through about fifteen minutes of arc, the wire was again bisected, and the microscope read. The difference between the two sets of microscope readings, corrected for runs, was then divided by the number of revolutions of the micrometer. The observations of September 9th, 1861, made one revolution, equal to $30'' 6_{//}$; and those of April 25th, 1862, gave an identical result, so that $^{s.}_{2\cdot04604}$ has been adopted as the value.

The transits are generally observed on seven wires, the equatorial values of which from the mean, used till December 4th, 1864, were as follow :—

I.	II.	III.	D.	V.	VI.	VII.
+4·008	+2·567	+1·353	—0·088	—1·222	—2·567	—4·051

The determination of these values was made by means of the R.A. micrometer and the north collimator; since the above date, however, the following values, computed from 102 transits of circumpolar stars, have been used :—

I.	II.	III.	D.	V.	VI.	VII.
+4·010	+2·625	+1·345	—0·098	—1·227	—2·587	—4·068

Besides this set of wires, the telescope contains two others, which have never been used for R.A. observations since the instrument has been at Melbourne. The values of the second set from their mean are as follow :—

α.	β.	γ.	D.	ε.	ζ.	η.
+11·417	+8·572	+5·662	—0·018	—5·726	—8·526	—11·382

The values of the third set have been only approximately determined for the calculation of the curvature correction in polar distance observations; reckoning from the mean of the first set, they are as under :—

A.	B.	C.	D.	E.	F.	G.
+42·6	+28·2	+14·1	—0·09	—14·6	—28·9	—43·2

When a star has been observed on less than seven wires, the mean of the wires observed is taken; to this is added a correction found by adding together the equatorial

values of the wires observed, dividing their sum by their number, and finally multiplying the quotient by the secant of the stars' declination. The wires are so close as to render unnecessary in the case of circumpolar stars the correction for the difference between the arc and the sine.

For the application of the corrections for error of collimation, level, and azimuth, an extensive table of factors has been computed with the south polar distance for argument. The collimation factor is sec. δ; that of level is sec. δ, cos. ZD, and that of azimuth, sec. δ, sin ZD. Each of the three corrections is multiplied by the factor proper to the place of the star, and the products are added to the mean of the seven wires; the sum is the true meridian transit by the clock. To this is applied the observer's clock error at some hour near the commencement of the set of observations, and the proportional part of the clock rate; the result is the apparent right ascension of the star; this is then reduced to the mean right ascension at the commencement of the year by the application of the corrections for aberration, precession, and nutation. For the *Nautical Almanac* fundamental stars, this correction is obtained by taking the difference between the apparent place of the star for the date, and its mean place, as given for the beginning of the year; it therefore includes the proper motion. For stars in the B.A.C. whose declinations are less than 60 degrees, the *a b c d* numbers of that work are used in conjunction with the A B C D of the *Nautical Almanac*; for other stars, *a b c d* numbers have been computed with the coefficients of Professor Peters, as given in the *Nautical Almanac*. For our standard azimuth stars these numbers have been calculated for every year, or every fifth year, and the intermediate values found by interpolation. For double stars the same correction has been generally used for both components. The terms depending on twice the longitude of the moon have been taken into account in the correction of the right ascensions of σ Octantis, o Octantis, Octantis,

B.A.C. 7020, and Nos. 33 and 146 of the Melbourne Catalogue for 1865.

The clock errors are found by comparing the true meridian transits of the *Nautical Almanac* fundamental stars whose declinations do not exceed 40 degrees, with their apparent right ascensions, as given in that work, *plus* a small correction obtained from the observations themselves, and which is computed at the end of each year. Generally from five to seven stars are observed, and the mean of the separate errors is considered the observer's clock error at the sidereal time corresponding to the mean of their true meridian transits. The errors are then reduced to the standard observer by the application of the personal equation, and their differences divided by the interval in days between them have been adopted as the rates at the middle of the interval; these are then reduced to the time of the clock error by allowing weights inversely proportional to the intervals. The corrections that have been applied to the *Nautical Almanac* right ascensions of the clock stars in the years 1863, 1864, and 1865, are given in the following table :—

Star.	Correction. 1863.	1864.	1865.	Star.	Correction. 1863.	1864.	1865.
	s.	s.	s.		s.	s.	s.
α Andromedæ.	+ 0·03	+ 0·01	+ 0·01	δ Arietis.....	— 0·01	— 0·01	— 0·02
γ Pegasi.....	+ 0·01	0·00	0·00	η Tauri	+ 0·05	+ 0·04	+ 0·03
12 Ceti	— 0·03	— 0·04	— 0·04	γ^1 Eridani	+ 0·04	+ 0·04	+ 0·05
β Ceti.....	+ 0·04	+ 0·05	+ 0·05	o^1 Eridani.....	— 0·02	— 0·02	— 0·01
ε Piscium	— 0·06	— 0·06	— 0·05	ε Tauri	+ 0·01	0·00	0·00
θ^1 Ceti	+ 0·04	+ 0·05	+ 0·05	α Tauri	— 0·03	— 0·03	— 0·03
η Piscium.....	+ 0·04	+ 0·04	+ 0·03	ι Aurigæ	0·00	0·00	— 0·02
ν Piscium	0·00	+ 0·01	+ 0·01	ε Leporis	+ 0·05	+ 0·06	+ 0·07
β Arietis.....	+ 0·01	+ 0·01	+ 0·01	β Orionis	+ 0·03	+ 0·03	+ 0·03
α Arietis	— 0·01	— 0·02	— 0·02	β Tauri	+ 0·03	+ 0·03	+ 0·02
67 Ceti.....	0·00	+ 0·01	+ 0·02	δ Orionis	— 0·01	— 0·01	— 0·02
ξ^2 Ceti	— 0·02	— 0·01	— 0·01	α Leporis	— 0·02	— 0·03	— 0·03
γ Ceti.....	+ 0·02	+ 0·03	+ 0·03	ε Orionis.....	+ 0·02	+ 0·02	+ 0·03
α Ceti.....	+ 0·03	+ 0·04	+ 0·04	α Columbæ	— 0·14	— 0·14	— 0·14

Star.	Correction. 1863.	1864.	1865.	Star.	Correction. 1863.	1864.	1865.
	s.	s.	s.		s.	s.	s.
α Orionis	0·00	0·00	0·00	β Libræ	0·00	0·00	0·00
ν Orionis	— 0·04	— 0·03	— 0·03	α Coronæ Bore.	+ 0·02	+ 0·02	+ 0·01
μ Geminorum..	+ 0·01	+ 0·01	+ 0·01	α Serpentis	+ 0·04	+ 0·03	+ 0·04
γ Geminorum .	— 0·02	— 0·01	— 0·02	β1 Scorpii	0·00	0·00	0·00
α Canis Majoris	— 0·22	— 0·22	— 0·23	δ Ophiuchi.....	0·00	0·00	+ 0·01
ε Canis Majoris	0·00	— 0·01	0·00	α Scorpii	— 0·01	— 0·01	— 0·01
γ Canis Majoris	— 0·02	— 0·03	— 0·02	ζ Herculis	+ 0·02	+ 0·01	0·00
δ Geminorum .	0·00	0·00	— 0·01	κ Ophiuchi.....	— 0·06	— 0·06	— 0·06
α2 Geminorum.	+ 0·04	+ 0·04	+ 0·02	α Herculis	+ 0·03	+ 0·03	+ 0·03
α Canis Minoris	+ 0·08	+ 0·08	+ 0·08	θ Ophiuchi.....	+ 0·01	+ 0·01	+ 0·02
β Geminorum..	+ 0·02	+ 0·02	+ 0·02	α Ophiuchi	0·00	+ 0·01	+ 0·01
6 Cancri...	— 0·04	— 0·05	— 0·06	μ Herculis	0·00	0·00	— 0·02
15 Argûs	— 0·01	— 0·02	— 0·02	μ1 Sagittarii ...	+ 0·02	+ 0·03	+ 0·04
η Cancri.....	+ 0·01	+ 0·02	+ 0·02	α Lyræ	— 0·04	— 0·03	— 0·04
ε Hydræ	— 0·06	— 0·06	— 0·04	β Lyræ	+ 0·07	+ 0·06	+ 0·04
83 Cancri	+ 0·10	+ 0·07	+ 0·10	ζ Aquilæ	+ 0·08	+ 0·08	+ 0·08
α Hydræ	+ 0·02	+ 0·02	+ 0·02	ω Aquilæ	— 0·01	— 0·01	— 0·01
ε Leonis	+ 0·01	+ 0·01	0·00	δ Aquilæ	— 0·01	— 0·01	0·00
π Leonis	0·00	+ 0·01	+ 0·01	h2 Sagittarii ...	+ 0·09	+ 0·11	+ 0·12
α Leonis	+ 0·02	+ 0·03	+ 0·03	γ Aquilæ	0·00	0·00	0·00
γ1 Leonis	0·00	— 0·02	— 0·02	α Aquilæ	— 0·01	— 0·01	— 0·02
ρ Leonis.....	— 0·03	— 0·03	— 0·03	β Aquilæ	0·00	0·00	0·00
l Leonis	+ 0·03	+ 0·04	+ 0·03	α2 Capricorni...	+ 0·04	+ 0·04	+ 0·05
χ Leonis...	— 0·01	— 0·02	— 0·02	ρ Capricorni....	+ 0·15	+ 0·15	+ 0·15
δ Leonis...	0·00	+ 0·01	0·00	32 Vulpeculæ .	— 0·04	— 0·06	— 0·06
δ Crateris	0·00	0·00	+ 0·01	61¹ Cygni	0·00	+ 0·15	+ 0·14
υ Leonis..... ..	— 0·03	— 0·03	— 0·03	ζ Cygni	+ 0·03	0·00	— 0·01
β Leonis...	+ 0·04	+ 0·04	+ 0·02	β Aquarii	+ 0·04	+ 0·04	+ 0·04
ε Corvi	— 0·03	— 0·03	— 0·02	ε Pegasi.....	— 0·04	— 0·05	— 0·05
η Virginis	+ 0·01	+ 0·01	+ 0·01	16 Pegasi	— 0·01	— 0·02	— 0·03
β Corvi	+ 0·11	+ 0·11	+ 0·12	α Aquarii	+ 0·03	+ 0·04	+ 0·04
γ1 Virginis.....	— 0·05	— 0·05	— 0·05	α Gruis	— 0·07	— 0·09	— 0·09
12 Canum Ven.	0·00	+ 0·06	+ 0·04	θ Aquarii	— 0·02	— 0·01	— 0·01
θ Virginis	+ 0·01	+ 0·01	+ 0·01	η Aquarii	0·00	+ 0·01	+ 0·01
α Virginis.....	+ 0·02	+ 0·02	+ 0·02	ζ Pegasi.....	+ 0·04	+ 0·03	+ 0·03
ζ Virginis	— 0·05	— 0·05	— 0·04	α Piscis Austra.	+ 0·06	+ 0·06	+ 0·05
η Boötis.....	0·00	+ 0·01	0·00	α Pegasi.....	— 0·01	— 0·01	— 0·02
τ Virginis	+ 0·01	+ 0·01	+ 0·02	γ Piscium	+ 0·01	+ 0·01	0·00
α Boötis.....	+ 0·01	+ 0·01	0·00	κ Piscium	— 0·01	— 0·01	— 0·01
ρ Boötis.....	0·00	0·00	— 0·02	ι Piscium	— 0·02	— 0·02	— 0·03
ε Boötis	+ 0·05	+ 0·06	+ 0·05	δ Sculptoris ...	— 0·02	— 0·01	— 0·01
α2 Libræ	0·00	0·00	0·00	ω Piscium	— 0·05	— 0·04	— 0·04
ψ Boötis..... ..	— 0·04	— 0·05	— 0·08				

α Gruis has been occasionally used as a clock star, although its declination exceeds 40 degrees; it is therefore inserted in the above list.

Zenith Distance.

The examination of the circle for errors of division was made by the following process:—In the first place, the positions of the cardinal divisions, 0°, 90°, 180°, 270°, were determined with the four microscopes, A, B, C, D, in their ordinary position. Microscopes B and D were then dismounted, and firmly refixed on cast-iron frames, clamped to the pier in such a way that they read 10° in advance of A and C. When 0° was under A, 10° was under B, 180° under C, and 190° under D. After reading the microscopes the circle was moved through ten degrees, 10° being now under A, and 20° under B, 190° under C, and 200° under D, and so on.

For the examination of the single degrees a special micrometer microscope was used. This microscope had two object glasses, so arranged that the images of contiguous degree divisions were formed a few seconds apart at the focus of the eye-piece, the interval between the images—which was about 55″—being measured by the micrometer.

To obtain the corrections for the cardinal divisions the circle was first clamped with the pointer at 0°, and the four microscopes read; the circle was then successsvely shifted to pointer readings 270°, 180°, and 90°, and the four microscopes read each time.

Let $A_0\ B_0\ C_0\ D_0$ be the readings for the pointer at 0°, $A_1\ B_1\ C_1\ D_1$ the readings for pointer at 270°; and let

$$\begin{aligned} E &= \tfrac{1}{4}(A_0 + B_1 + C_2 + D_3) \\ F &= \tfrac{1}{4}(B_0 + C_1 + D_2 + A_3) \\ G &= \tfrac{1}{4}(C_0 + D_1 + A_2 + B_3) \\ H &= \tfrac{1}{4}(D_0 + A_1 + B_2 + C_3) \end{aligned}$$

Then if ϕ_0 represents the correction for the 0° division, ϕ_{90} for the 90, &c., we shall have—

$$\begin{aligned} \phi_{90} - \phi_0 &= E - F \\ \phi_{180} - \phi_{90} &= F - G \\ \phi_{270} - \phi_{180} &= G - H \\ \phi_0 - \phi_{270} &= H - E \end{aligned}$$

So that ϕ_0 being known, the others may be easily found. As the value of ϕ_0 is quite arbitrary, it has, for the sake of avoiding negative quantities, been taken $= + 4{\cdot}00''$.

For the examination of the 10° divisions the circle was clamped with the pointer at each 10° of the first quadrant; then calling the readings the same as before, the quantity K was made equal to $\frac{1}{9}\{(B_0 - A_0) + (B_1 - A_1) + \&c. \ldots (B_8 - A_8) + (\phi\, 90 - \phi\, 0)\}$, from which were formed the equations

$$\phi_{10} = K - (B_0 - A_0) + \phi_0$$
$$\phi_{20} = K - (B_1 - A_1) + \phi_{10}, \&c.$$

A similar process with the readings of C and D gave the values of ϕ for the 10° divisions of the third quadrant. The second, third, and fourth quadrants were then treated in the same manner.

For the examination of the single degrees the special microscope already alluded to was used The readings of the intervals between the images of the contiguous degrees—which were nearly superimposed at the focus of the eye-piece—were obtained for every degree. Each set of readings was taken forwards and backwards—that is, the divisions were first taken in the order 1°, 2°, 3° . . . . 20°, and then in the order 20° . . . . 3°, 2°, 1°, and so on, so as to eliminate as far as possible the effect of any small change of the value of the micrometer screw, or in the shape of the circle in the interval.

The readings were treated in the same manner as those of the 10° divisions.

Throughout the examination of the circle each division was read by four observers. The cardinal divisions were each read 144 times, the 10° divisions 72 times, and the single degrees 16 times.

From the results of these observations the following table of errors of division has been computed.

Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.
	″		″		″		″		″		″		″
0	4·00	42	4·39	84	3·84	126	1·32	168	2·38	210	2·55	252	3·06
1	3·83	43	4·49	85	3·87	127	1·06	169	2·02	211	1·87	253	3·29
2	3·95	44	4·68	86	3·74	128	1·43	170	2·25	212	2·07	254	2·96
3	4·66	45	4·56	87	3·60	129	2·02	171	2·31	213	2·26	255	3·24
4	4·91	46	4·27	88	4·08	130	1·69	172	2·91	214	2·43	256	2·72
5	5·34	47	4·41	89	3·56	131	1·41	173	2·45	215	2·60	257	2·22
6	5·33	48	4·63	90	3·67	132	1·32	174	2·71	216	2·47	258	2·46
7	5·47	49	4·83	91	3·70	133	0·96	175	2·65	217	2·61	259	2·60
8	5·81	50	4·58	92	3·55	134	1·04	176	2·66	218	2·72	260	2·84
9	6·19	51	4·80	93	4·10	135	0·97	177	2·25	219	2·74	261	2·71
10	5·90	52	4·90	94	4·10	136	0·70	178	2·42	220	2·44	262	2·83
11	5·37	53	4·94	95	3·72	137	0·78	179	2·51	221	2·24	263	3·45
12	6·00	54	5·32	96	3·47	138	1·03	180	2·34	222	1·70	264	4·06
13	6·23	55	5·04	97	3·81	139	0·85	181	2·53	223	1·45	265	3·96
14	6·94	56	5·19	98	3·92	140	0·61	182	2·57	224	1·37	266	3·43
15	6·47	57	4·87	99	3·64	141	0·73	183	2·80	225	1·29	267	3·19
16	5·71	58	4·55	100	3·42	142	1·17	184	3·26	226	1·17	268	3·24
17	5·42	59	4·36	101	3·92	143	1·50	185	3·38	227	0·96	269	3·26
18	4·60	60	4·46	102	3·67	144	1·85	186	3·35	228	1·30	270	3·64
19	4·57	61	4·07	103	3·84	145	2·16	187	3·33	229	1·83	271	4·15
20	4·86	62	4·30	104	3·41	146	2·26	188	3·49	230	2·17	272	4·77
21	4·91	63	3·52	105	3·06	147	2·36	189	3·30	231	2·38	273	4·67
22	4·80	64	3·71	106	2·85	148	2·05	190	3·35	232	2·41	274	4·93
23	4·73	65	3·94	107	2·48	149	2·04	191	3·26	233	2·78	275	5·74
24	4·34	66	4·14	108	2·29	150	2·35	192	3·35	234	2·64	276	5·62
25	4·09	67	4·37	109	2·74	151	2·66	193	3·20	235	2·65	277	5·37
26	4·48	68	4·06	110	3·52	152	2·32	194	2·99	236	2·73	278	4·90
27	4·53	69	3·87	111	3·68	153	2·06	195	2·67	237	2·85	279	4·38
28	4·55	70	3·97	112	3·43	154	1·99	196	2·90	238	2·47	280	4·29
29	4·71	71	3·52	113	3·22	155	2·15	197	2·89	239	2·49	281	4·24
30	4·59	72	3·62	114	3·03	156	2·21	198	2·57	240	2·62	282	4·53
31	4·63	73	3·21	115	3·12	157	2·48	199	2·40	241	2·79	283	4·14
32	5·01	74	2·68	116	3·59	158	2·35	200	2·62	242	2·98	284	4·04
33	5·10	75	2·53	117	3·41	159	2·64	201	3·08	243	2·41	285	4·41
34	5·06	76	2·59	118	3·24	160	2·63	202	2·94	244	2·48	286	4·00
35	5·03	77	2·67	119	3·09	161	2·74	203	2·93	245	2·51	287	3·89
36	5·23	78	3·11	120	3·06	162	2·69	204	2·74	246	2·40	288	3·95
37	5·34	79	3·11	121	2·87	163	2·96	205	3·13	247	2·63	289	4·06
38	5·44	80	3·62	122	2·64	164	2·80	206	2·75	248	2·74	290	4·09
39	5·24	81	3·93	123	2·34	165	2·79	207	2·79	249	2·76	291	4·14
40	4·49	82	4·07	124	1·85	166	2·73	208	2·68	250	2·91	292	4·44
41	4·37	83	4·14	125	1·47	167	2·46	209	2·52	251	3·21	293	3·85

Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.	Div.	Error.
	″		″		″		″		″		″		″
294	3·98	304	4·66	314	3·97	324	3·97	334	4·65	344	4·07	354	3·79
295	3·60	305	4·80	315	3·65	325	4·31	335	4·63	345	3·54	355	3·68
296	3·75	306	4·96	316	3·35	326	4·30	336	4·70	346	3·48	356	4·18
297	3·86	307	4·91	317	2·99	327	4·45	337	4·82	347	3·95	357	4·42
298	4·17	308	4·59	318	3·12	328	4·68	338	4·57	348	3·68	358	4·32
299	4·00	309	4·49	319	3·32	329	5·01	339	4·49	349	3·84	359	4·28
300	4·19	310	4·13	320	3·49	330	4·68	340	4·68	350	3·93	360	4·00
301	4·51	311	4·06	321	3·59	331	4·64	341	4·58	351	4·04		
302	5·00	312	3·98	322	3·35	332	4·89	342	4·66	352	3·61		
303	4·94	313	3·76	323	3·86	333	4·74	343	4·54	353	3·60		

The *runs* of the four microscopes have been obtained from time to time at irregular intervals in the usual manner, the corrections, which have always been small, being applied to the mean of the four readings.

The *value of the declination micrometer* was determined by aid of one of the collimators, and the circle in the manner already described for the transit micrometer.

On Sept. 9th, 1861, three sets of measures were made, with the following results:—One revolution, = 30·641″, 30·686″, and 30·674″. The mean was adopted as the true value. On November 1st, 1865, three more measures were obtained, the telescope being moved through about 5′. Each time the resulting values were 30·647″, 30·606″, and 30·678″. These were so near the old values that no alteration was considered necessary, especially as the reading of the micrometer in polar distance observations seldom exceeds a quarter of a revolution.

The *Nadir point* has been found by observation of the reflected image of the declination wire by means of a Bohnenberger eye-piece. Five coincidences of the image with each side of the wire have been always observed, and the mean taken as the reading of coincidence. This determination has been made every night that polar distance observations have been obtained.

The *barometer, attached and external thermometers,* were always read at short intervals during observing hours.

In observing for zenith distance the object is, as a rule, bisected with the declination wire immediately after it has passed the whole of the close system of R.A. wires, and generally on, or close to, the wires ϵ or ζ. As an exception, close circumpolar stars are sometimes bisected close to, and on both sides of the centre wire; the letter designating the wire near which the bisection is made being always entered with the circle readings. The four microscopes are read immediately after bisection with declination wire.

The several corrections to the observations have been made in the following manner:—To the reading of the pointer is first added the mean reading of the four microscopes corrected for runs, the equivalent of the reading of the telescope micrometer, and the correction for flexure and division, the result being the circle reading; to this is applied the curvature correction for the wire on which bisection was made, and the zenith point reading, by which we get the apparent zenith distance; correcting for refraction, the true zenith distance is obtained; parallax, if any, now being applied, we get the geocentric zenith distance, which, corrected for colatitude, gives the N.P.D. To reduce this to January 1, the star's correction with the sign changed is now applied.

The corrections for refraction have been computed by aid of Bessel's tables, as modified and expanded in the Greenwich observations for 1853.

The correction for curvature has been computed from the formula. Correction $= \frac{225\ t^2\ sine\ 1''}{2} \tan \delta$; where t is the distance in time between the middle wire and the wire on which the bisection is made, and δ the declination of the star, the declination wire has always been found so nearly horizontal as to render any correction unnecessary.

The assumed colatitude of the transit circle is 52° 10′ 6·6″; the corrections for which, as deduced from observations of circumpolar stars for the several years over which these observations extend, are as follow :—1863, + 0·220″, derived from 46 observations of circumpolar stars; 1864, + 0·363″, derived from 341 observations of circumpolar stars; 1865, + 0·617″, derived from 274 observations of circumpolar stars.

VIII. OBSERVATIONS OF COMET I, 1865, WITH THE EQUATORIAL.

Until February 9th this comet was sufficiently bright to be observed with the position micrometer in an artificially illuminated field; the times of transit of the comet and stars over the meridian wire were observed either by the chronograph or by counting the beats of a chronometer, and the differences of declination were directly measured by means of the screws, whose revolutions were converted into arc at the rate of 31·892″ for A micrometer, and 31·875″ for B micrometer. The observed differences of right ascension and declination were then applied to the apparent place of the star, and the result adopted as the apparent place of the comet at the time of its transit over the wire. The refraction was then computed in the following manner :—Let PZ, ZS, and PS be the sides of the spherical triangle contained between the pole, the zenith, and the body; call them c, z, and p; from z draw a perpendicular to PS, call it γ, and the part of PS intercepted between P and the foot of γ call ϵ; then calling the hour angle H, we have $\sin \gamma = \sin c \sin H$, and $\tan \epsilon = \tan c \cos H$; and assuming the refraction in zenith distance to be 57·41″ tan z, we shall have log. refraction in polar distance = 1·7590 + log. tan $(p - \epsilon)$, and log.

refraction in R.A. = 0·5829 + log. tan γ + log. cosec p + log. sec (p − ϵ). For the calculation of the parallax in R.A. and polar distance a similar construction may be made, using the geocentric colatitude c′ in place of c. Then sin γ' = sin c′ sin H, and tan ϵ' = tan c′ cos H; now calling P t equatorial horizontal parallax and ρ the geocentric radius for c′, we have log. parallax in polar distance = log. ρ + log. P + log. cos γ' + log. sin (p − ϵ'), and log. parallax in R.A. = 8·82391 + log. ρ + log. P + log. sin γ' + log. cosec p. The quantities tan γ, ϵ, sin γ', cos γ', and ϵ' have been tabulated for every minute of right ascension, whence their values have been taken. On February 10th, 13th, and 17th, a micrometer was used composed of a thick wire, which represented the meridian, and another at an angle of nearly 45 degrees with it, so that near the equator a difference of 16·272″ of declination would cause a difference of one second of time in the interval taken by a star to pass from the meridian wire to the inclined one. With this micrometer no artificial illumination was required. The differences of right ascension were obtained directly as before from the transits over the meridian wire, and the differences of declination by means of the differences of the time taken by each body to pass from the meridian to the inclined wire. These, in seconds of time, were multiplied by 16·272″ and the cosine of the declination; the result was adopted as the apparent difference of declination. In these last three cases the star and the comet were so nearly of the same declination as to render the effects of refraction insignificant.

The remaining observations were taken with a parallel wire micrometer, the wires of which were of silver, and sufficiently thick to be seen without illumination. There were two declination wires separated by an interval of 9′ 29·66″, so as to render only a small motion of the screw necessary, one revolution of which was equal to 55·148″. The reductions were made as in the first instance.

PRINTED OBSERVATIONS.

The separate Results for Right Ascension and North Polar Distance are taken directly from the transit books, together with the observer's estimates of the magnitudes when noted. In the results for right ascension the stars used in computing the clock error do not appear unless four at least have been observed, and when only four have been used, the interval between the first and last must amount to two hours at least. Neither do the stars whose right ascensions have been employed in calculating the azimuth of the instrument appear, unless, as has occasionally been the case, the instrument has been so steady as to justify the grouping of the azimuth errors for several nights, and using the mean result. This, however, has been rarely done, and when it has been, the position of the instrument has principally depended upon super and sub-polo transits of the same stars.

Annual Catalogues.—The places of the stars as given in the annual catalogues have been derived from the separate results by simply taking their arithmetical mean, rejecting any result enclosed in brackets. The magnitudes have been taken in order of preference from the Melbourne Observations, the Williamstown Catalogue, the *Nautical Almanac*, or the *British Association Catalogue.* Where a star has been only observed in one element, the other has been supplied from the same sources. For the *Standard Nautical Almanac* stars the precessions have, with the exception of σ Octantis, been copied from that work, so that the proper motion is included in them. For stars in the Williamstown Catalogue the precessions are taken from there, after having reduced them to the proper date by means of the secular variations.

The precessions of the other stars have been computed from the formulæ $p = \frac{1}{15}(m + n \sin \alpha \operatorname{cotan} \Delta)$ and $p' = n \cos \alpha$, where p and p′ are the precessions in right ascension and north polar distance, α the mean right ascension for the commencement of the year, and Δ the mean north polar distance. m and n are those of Professor Peters; they are taken from the *Nautical Almanac* for the year.

MELBOURNE OBSERVATORY.

SEPARATE RESULTS

FOR

MEAN R.A. OF STARS

OBSERVED IN THE YEAR

1863.

	h. m. s	Mag.
α Andromedæ.		
Nov. 15	0. 1 18·67	...
20	18·61	...
24	18·63	...
30	18·53	...
Ceti. B.A.C. 12.		
Nov. 30	0. 2 54·17	7·0
γ Pegasi.		
Nov. 15	0. 6 10·95	...
20	10·97	...
23	10·88	...
24	11·01	...
30	10·93	...
Piscium. B.A.C. 57.		
Nov. 30	0.10 45·51	7·0
44 Piscium.		
Nov. 30	0.18 22·75	7·0
β Hydri.		
July 30	0.18 SP 30·26	...
Piscium. B.A.C. 97.		
Nov. 30	0.20 18·51	7·5
12 Ceti.		
Nov. 23	0.23 2·78	...
Dec. 3	2·83	...
Piscium. B.A.C. 113.		
Nov. 30	0.23 6·15	7·0
15 Ceti.		
Nov. 30	0.31 4·22	6·5
Ceti. Lalande 1097.		
Nov. 30	0.34 32·74	8·0
β Ceti.		
Nov. 20	0.36 42·69	...
23	42·65	...
24	42·66	...
30	42·69	...
Dec. 3	42·64	...
7	42·66	...
Weisse 0·649.		
Nov. 30	0.38 3·41	8·0
60 Piscium.		
Nov. 30	0.40 18·52	7·0
Piscium. B.A.C. 221.		
Nov. 30	0.41 11·89	6·5
Weisse 0·806.		
Nov. 30	0.46 36·80	9·0
Weisse 0·871.		
Nov. 30	0.50 39·28	9·0
ε Piscium.		
Nov. 20	0.55 50·07	...
23	50·10	...
24	50·11	...
30	50·04	...
Dec. 3	50·08	...
7	50·07	...
26 Ceti.		
Nov. 30	0.56 46·08	6·5
Weisse 0·1031.		
Nov. 30	0.59 4·88	10·0
29 Ceti.		
Nov. 30	1. 0 55·86	6·5
80 Piscium.		
Nov. 30	1. 1 18·72	6·0
33 Ceti.		
Nov. 30	1. 3 30·54	6·5
35 Ceti.		
Nov. 30	1. 5 29·21	7·0
Piscium. B.A.C. 397.		
Nov. 30	1.12 18·93	7·5
Weisse 1·229.		
Nov. 30	1.15 13·87	9·5
43 Ceti.		
Nov. 30	1.15 34·42	6·5
θ^1 Ceti.		
Nov. 23	1.17 10·68	...
Dec. 3	10·54	...
7	10·57	...
17	10·57	...

Ceti. B.A.C. 433.

	h.m.s	Mag.
Nov. 30	1.19 26·66	6·0

95 Piscium.

	h.m.s	
Nov. 30	1.20 33·18	7·0

μ Piscium.

	h.m.s	
Nov. 30	1.23 0·45	5·5

η Piscium.

	h.m.s	
Nov. 23	1.24 9·27	...
30	9·35	...
Dec. 3	9·32	...
7	9·32	...
17	9·34	...

α Eridani.

	h.m.s	
Dec. 3	1.32 36·54	...
17	36·44	...

ν Piscium.

	h.m.s	
Nov. 30	1.34 18·23	...
Dec. 3	18·21	...
7	18·25	...
17	18·23	...
22	18·21	...

Piscium. B.A.C. 551.

	h.m.s	Mag.
Nov. 30	1.41 20·26	6·0

ξ Piscium.

	h.m.s	
Nov. 30	1.46 27·89	...

β Arietis.

	h.m.s	
Nov. 30	1.47 4·59	...
Dec. 17	4·57	...
22	4·58	...
27	4·58	...

α Arietis.

	h.m.s	
Nov. 30	1.59 27·23	...
Dec. 17	27·31	...
20	27·26	...
22	27·31	...
27	27·29	...

67 Ceti.

	h.m.s	
Nov. 30	2.10 9·11	...
Dec. 17	9·06	...
20	9·04	...
22	9·01	...
27	9·04	...

ξ² Ceti.

	h.m.s	
Dec. 17	2.20 52·67	...
20	52·68	...
22	52·67	...

ξ² Ceti. *(continued).*

	h.m.s	Mag.
Dec. 27	2.20 52·66	...
29	52·66	...

γ Ceti.

	h.m.s	
Nov. 30	2.36 12·28	...
Dec. 17	12·30	...
22	12·25	...
27	12·27	...
29	12·21	...

α Ceti.

	h.m.s	
Dec. 22	2.55 7·20	...
29	7·19	...

δ Arietis.

	h.m.s	
Dec. 29	3. 3 47·93	...

Mensæ. Brisbane 593.

	h.m.s	
Aug. 10	3.35 SP 4·27	6·5
10	4·15	...
11	SP 3·91	...

η Tauri.

	h.m.s	
Dec. 3	3.39 20·61	...
29	20·73	...

γ Hydri.

	h.m.s	Mag.
July 17	3.49 SP 24·16	...
Aug. 9	SP 23·85	...
10	SP 24·00	...
10	24·11	...
11	SP 24·28	...

γ^1 Eridani.

	h.m.s	
Dec. 3	3.51 38·27	...
17	38·31	...
29	38·31	...

o^1 Eridani.

	h.m.s	
Dec. 3	4. 5 10·76	...
17	10·74	...

ε Tauri.

	h.m.s	
Dec. 3	4.20 37·17	...
17	37·12	...

α Tauri.

	h.m.s	
Dec. 17	4.28 3·71	...

β Orionis.

	h.m.s	
July 12	5·7 57·25	...
16	57·28	...

δ Orionis.

	h. m. 5.25 s	Mag.
July 12	0·52	...
14	0·53	...
16	0·53	...
19	0·56	...
22	0·49	...
24	0·51	...
26	0·52	...

α Leporis.

	5.26 s	
July 12	41·30	...
14	41·29	...
16	41·24	...
19	41·26	...
22	41·27	...
24	41·31	...
26	41·26	...

ε Orionis.

	5.29 s	
July 14	15·76	...
16	15·75	...
19	15·75	...
22	15·74	...
24	15·76	...
26	15·77	...

α Columbæ.

	5.34 s	
July 12	41·25	...
14	41·28	...
16	41·33	...
19	41·31	...
22	41·28	...
24	41·28	...
26	41·33	...

α Orionis.

	h. m. 5·47 s	Mag.
July 12	45·27	...
14	45·34	...
19	45·36	...
22	45·30	...
24	45·30	...
26	45·31	...
30	45·28	...

α Argûs.

	6.20 s	
July 12	54·53	...
24	54·66	...
26	54·66	...
30	54·68	...
Aug. 4	54·69	...

α Canis Majoris.

	6.39 s	
July 12	6·49	...
24	6·61	...
26	6·56	...
30	6·53	...
Aug. 2	6·52	..
9	6·52	...
12	6·56	...
14	6·57	...

ε Canis Majoris.

	6.53 s	
July 26	14·55	...
Aug. 4	14·47	...
9	14·49	...
10	14·50	...
12	14·45	...
14	14·51	...

γ Canis Majoris.

	h. m. 6.57 s	Mag.
Aug. 4	33·56	...
9	33·53	...
14	33·56	...

α Canis Minoris.

	7.32 s	
Aug. 10	7·75	...
14	7·75	...

Octantis.

	7·33 s		
Aug. 26	SP 56·49	7·0
Sept. 6	SP 55·71	7·5
24	SP 55·49	...
30	SP 56·33	...

ζ Argûs.

	7.58 s	
Aug. 2	46·11	...

15 Argûs.

	8. 1 s	
Aug. 2	42·60	...
9	42·54	...
10	42·48	...
14	42·52	...

β Argûs.

	9.11 s	
Aug. 3	40·86	...

ι Argûs.

	h. m. 9.13 s	Mag.
Aug. 3	25·29	...
Sept. 24	SP 25·29	...
24	25·40	...
30	SP 25·30	...
Oct. 2	SP 25·23	...
5	SP 25·22	...
14	SP 25·25	...

α Hydræ.

	9.20 s	
Aug. 3	51·25	...
11	51·21	...

η Argûs.

	10.39 s	
Oct. 14	SP 45·09	5·0

ε Corvi.

	12. 3 s	
July 30	4·97	...
Nov. 1	4·92	...

β Chamæleontis.

	12.10 s	
July 30	23·11	...

η Virginis.

	12.12 s	
July 30	53·86	...

Crucis. B.A.C. 4186.

	h. m. 12.18 s	Mag.
Nov. 20	SP55·25	5·0
23	SP55·52	...

α^1 Crucis.

	12.19 s	
Oct. 18	0·20	...
Nov. 20	SP 0·03	...
23	SP 0·10	...
Dec. 3	SP 0·17	...

α^2 Crucis.

	12.19 s	
Nov. 20	SP 0·99	...
23	SP 0·94	...
Dec. 3	SP 0·94	...

β Corvi.

	12.27 s	
July 30	11·75	...
Oct. 18	11·62	...
Nov. 1	11·67	...

γ^1 Virginis.

	12.34 s	
July 30	43·11	...
Aug. 13	43·09	...

θ Virginis.

	13. 2 s	
Aug. 13	51·48	...

α Virginis.

	h. m. 13.17 s	Mag.
Aug. 5	58·74	...
13	58·71	...

ζ Virginis.

	13.27 s	
Aug. 13	42·77	...

η Boötis.

	13.48 s	
July 23	9·72	...

β Centauri.

	13.54 s	
July 30	11·16	...
Oct. 14	11·23	...
Dec. 17	SP11·09	...
22	SP11·22	...

τ Virginis.

	13.54 s	
July 23	40·60	...

θ Centauri.

	13.58 s	
Oct. 14	37·77	...

α Boötis.

	14. 9 s	
July 23	24·83	...
30	24·73	...
Aug. 5	24·77	...

ρ Boötis.

	h. m. 14.25 s	Mag.
July 30	55·43	...

α^2 Centauri.

	14.30 s	
July 30	19·06	...
Dec. 17	SP19·12	...
22	SP19·11	...

ϵ Boötis.

	14.39 s	
July 30	0·23	...
Aug. 17	0·25	...

α^2 Libræ.

	14.43 s	
July 30	18·25	...
Aug. 17	18·24	...

ψ Boötis.

	14.58 s	
Aug. 10	34·46	...
17	34·49	...

β Libræ.

	15. 9 s	
July 8	38·22	...
13	38·24	...
Aug. 10	38·32	...
11	38·21	...
17	38·27	...
Dec. 20	38·20	...

ρ Octantis.

	h. m. 15.12 s	Mag.
Aug. 11	15·24	...

α Coronæ Borealis.

	15.28 s	
July 8	53·26	...
13	53·32	...
28	53·13	...
Aug. 10	53·24	...
11	53·26	...
17	53·21	...

α Serpentis.

	15.37 s	
July 8	31·25	...
13	31·28	...
20	31·23	...
28	31·18	...
Aug. 10	31·27	...
11	31·23	...
17	31·27	...
21	31·20	...
Dec. 20	31·25	...

Scorpii. Lalande 29185.

	15.56 s	
Aug. 21	2·82	8·0

β^1 Scorpii.

	15.57 s	
July 8	28·47	...
13	28·48	...
17	28·48	...
20	28·48	...
28	28·43	...
Aug. 9	28·48	...
10	28·50	...

β^1 Scorpii. *(continued).*

	h.m. 15.57 s	Mag.
Aug. 11	28·50	...
17	28·45	...
21	28·45	...

δ^1 Apodis.

	16. 0 s	
Aug. 10	SP 0·34	...
11	0·31	...

δ Ophiuchi.

	16. 7 s	
July 8	10·07	...
17	10·04	...
20	10·09	...
28	10·09	...
Aug. 10	10·10	...
11	10·07	...
13	10·09	...
26	10·03	...

Octantis. B.A.C. 5412.

	16.10 s	
Aug. 10	41·63	6·5
11	41·03	...

* N.P.D. 129° 30′.

	16.17 s	
July 8	55·37	8·0
13	55·37	8·0
17	55·43	8·5

α Scorpii.

	h.m. 16.21 s	Mag.
July 17	0·67	...
20	0·69	...
28	0·65	...
Aug. 6	0·65	...
9	0·67	...
10	0·74	...
13	0·71	...
21	0·68	...
26	0·68	...
Oct. 8	0·60	...
Dec. 20	0·71	...

* N.P.D. 128° 42′.

	16.22 s		
July 8	18·47	7·0	
13	18·43	...	
17	18·50	7·5	

* N.P.D. 138° 35′.

	16.23 s	
July 13	53·38	...

* N.P.D. 130° 29′.

	16.24 s	
July 17	10·64	7·5
20	10·61	7·5

Normæ. B.A.C. 5533.

	16.26 s	
July 8	44·80	6·0

α Trianguli Australis

	h. m. 16.34 s	Mag.
July 8	11·22	...
13	11·34	...
20	11·28	...
28	11·32	...
Aug. 6	11·32	...
9	11·54	...
10	SP11·78	...
11	11·63	...
13	11·52	...
26	11·56	...
Dec. 17	SP11·23	...

ζ Herculis.

	16.36 s	
July 8	7·30	...
13	7·42	...
20	7·31	...
28	7·31	...
Aug. 9	7·41	...
11	7·30	...
13	7·30	...
15	7·37	...
26	7·21	...

κ Ophiuchi.

	16.51 s	
July 20	11·03	...
28	11·08	...
Aug. 6	11·07	...
9	11·12	...
15	11·14	...

α Herculis.

	17.8 s	
July 28	24·08	...
Aug. 6	24·02	...
13	24·07	...

θ Ophiuchi.

	h.m. 17.13 s	Mag.
July 28	35·81	...
Aug. 3	35·75	...
5	35·86	...
6	35·78	...
9	35·86	...
13	35·89	...

α Ophiuchi.

	17.28 s	
July 28	34·48	...
Aug. 3	34·54	...
6	34·49	...
13	34·51	...

μ Herculis.

	17.41 s	
July 28	5·93	...
Aug. 3	5·79	...
6	5·82	...

Telescopii. Lacaille 7576.

	17.59 s	
Sept. 2	55·56	7·0

ε Telescopii.

	18. 1 s	
Sept. 2	3·68	...
4	3·64	4·0
9	3·71	4·5

μ^1 Sagittarii.

	18. 5 s	
July 28	34·17	...

μ^1 Sagittarii. *(continued).*

	h. m. s	Mag.
	18. 5	
Aug. 3	34·24	...
5	34·22	...
6	34·18	...
26	34·19	...
31	34·16	...
Sept. 2	34·17	...
4	34·19	...
9	34·18	...

η Sagittarii.

	h. m. s	Mag.
	18. 8	
Sept. 2	21·36	4·0
4	21·34	4·0
9	21·37	4·0
28	21·33	...

δ Sagittarii.

	h. m. s	Mag.
	18.12	
Sept. 2	13·40	3·5
4	13·41	3·5
9	13·35	3·5

ϵ Sagittarii.

	h. m. s	Mag.
	18.15	
Sept. 2	4·70	3·0
4	4·76	3·0
9	4·69	3·5

α Telescopii.

	h. m. s	Mag.
	18.16	
Sept. 9	48·76	5·0

α Lyræ.

	h. m. s	Mag.
	18.32	
Aug. 26	17·86	...
31	17·93	...
Sept. 4	17·84	...
9	17·89	...

ϕ Sagittarii.

	h. m. s	Mag.
	18.37	
Aug. 31	5·72	3·5
Sept. 2	5·77	...
4	5·76	4·5
9	5·71	4·0

β Lyræ.

	h. m. s	Mag.
	18.45	
Aug. 26	1·30	...
31	1·29	...
Sept. 4	1·29	...
6	1·25	...
9	1·24	...

σ Sagittarii.

	h. m. s	Mag.
	18.46	
Aug. 31	46·12	3·0
Sept. 2	46·09	...
4	46·09	3·0
9	46·14	3·0

ζ Sagittarii.

	h. m. s	Mag.
	18.53	
Aug. 31	53·55	3·5
Sept. 4	53·55	3·5
9	53·56	3·5

τ Sagittarii.

	h. m. s	Mag.
	18.58	
Aug. 31	23·02	4·0
Sept. 2	23·05	...
4	23·05	5·0
9	23·09	4·5

ζ Aquilæ.

	h. m. s	Mag.
	18.59	
Aug. 26	6·74	...
31	6·70	...

α Coronæ Australis.

	h. m. s	Mag.
	19. 0	
Sept. 4	8·81	5·0
9	8·87	5·0

Aquilæ. Lalande 36269.

	h. m. s	Mag.
	19.10	
Aug. 21	14·97	8·0

ω Aquilæ.

	h. m. s	Mag.
	19.11	
Aug. 21	23·13	...
26	23·10	...
31	23·11	...
Sept. 6	23·04	...
9	23·09	...
16	23·07	...
18	23·09	...

β^1 Sagittarii.

	h. m. s	Mag.
	19.12	
Aug. 31	46·91	4·5
Sept. 4	46·83	5·0
9	46·91	5·0

α Sagittarii.

	h. m. s	Mag.
	19.14	
Aug. 31	23·23	4·5
Sept. 4	23·30	...
16	23·28	...
18	23·28	4·0

δ Aquilæ.

	h. m. s	Mag.
	19.18	
Aug. 21	35·37	...
26	35·37	...
31	35·33	...
Sept. 2	35·34	...
4	35·33	...
6	35·37	...
9	35·33	...
11	35·34	...
16	35·31	...
18	35·37	...

h^2 Sagittarii.

	h. m. s	Mag.
	19.28	
Aug. 26	22·02	...
31	21·96	...
Sept. 4	21·99	...
6	22·02	...
9	22·00	...
16	22·01	...
18	21·99	...
20	21·93	...
22	22·00	...
30	22·03	...
Oct. 2	21·99	...

γ Aquilæ.

	h. m. s	Mag.
	19.39	
Aug. 21	44·68	...
26	44·66	...
31	44·72	...

γ Aquilæ. *(continued).*

	h. m. 19.39 s	Mag.
Sept. 2	44·65	...
4	44·72	...
6	44·72	...
9	44·69	...
11	44·67	...
16	44·71	...
18	44·66	...
20	44·71	...
22	44·68	...
24	44·67	...
30	44·72	...
Oct. 2	44·74	...

α Aquilæ.

	19.44 s	
Aug. 21	5·84	...
31	5·83	...
Sept. 2	5·84	...
4	5·86	...
6	5·85	...
9	5·84	...
11	5·86	...
16	5·82	...
18	5·80	...
20	5·82	...
22	5·85	...
24	5·82	...
30	5·87	...

ι Sagittarii.

	19.45 s	
Sept. 30	48·08	4·5
Oct. 2	48·08	5·0
5	48·09	4·5
8	48·09	...

β Aquilæ.

	h. m. 19.48 s	Mag.
Aug. 31	34·94	...
Sept. 2	34·89	...
4	34·90	...
6	34·92	...
9	34·90	...
11	34·94	...
16	34·87	...
20	34·86	...
22	34·94	...
24	34·95	...
Oct. 2	34·92	...
5	34·89	...
8	34·92	...

c Sagittarii.

	19.54 s	
Sept. 30	13·81	5·0
Oct. 2	13·80	5.5
5	13·76	5.5
8	13·74	...

Octantis. B.A.C. 6859.

	19.55 s	
Sept. 24	13·45	...

Sagittarii.

	19.56 s	
Oct. 8	0·60	8·0

Sagittarii.

	19.56 s	
Oct. 8	52·36	8·0

Sagittarii. B.A.C. 6922.

	h. m. 20. 2 s	Mag.
Sept. 28	11·43	5·0
30	11·44	6·0
Oct. 2	11·51	6·0
5	11·49	6·0
8	11·55	...

Capricorni.

	20.10 s	
Sept. 24	1·15	9·0

α^1 Capricorni.

	20.10 s	
Sept. 4	3·05	...
9	3·09	...
11	3·08	...
28	3·09	...
30	3·04	...
Oct. 2	3·01	...
5	3·11	4·0
8	3·17	...

α^2 Capricorni.

	20.10 s	
Sept. 4	27·06	...
9	27·06	...
11	27·02	...
16	27·00	...
18	27·01	...
20	27·08	...
22	27·00	...
24	27·01	...
28	27·09	...
30	26·96	...
Oct. 2	27·00	...
5	27·00	...
8	26·98	...

α Pavonis.

	h. m. 20.14 s	Mag.
Sept. 2	47·19	...
4	47·26	...
9	47·30	...
11	47·25	...
16	47·26	...
18	47·30	...
22	47·23	...
Oct. 8	47·24	...

Octantis. B.A.C. 6993.

	20.14 s	
Sept. 24	52·72	6·0
28	52·45	6·0
30	52·52	6·0
Oct. 2	52·69	6·5
5	52·33	6·0

ρ Capricorni.

	20.21 s	
Sept. 2	2·64	...
4	2·48	...
9	2·66	...
11	2·50	...
16	2·60	...
20	2·57	...
24	2·56	...
28	2·49	...
30	2·54	...
Oct. 2	2·55	...
5	2·54	...
8	2·56	...

Capricorni. B.A.C. 7044.

	20.21 s	
Sept. 11	11·06	7·0
Oct. 5	11·00	...

α Indi.

	h. m. s	Mag.
	20.27	
Sept. 30	55·00	3·0
Oct. 2	55·03	3·5
5	55·06	3·5
8	55·02	3·0

α Cygni.

	20.36 s	
Sept. 18	45·54	...
24	45·57	...
28	45·41	...
30	45·62	...
Oct. 2	45·62	...
5	45·53	...

α Microscopii.

	20.41 s	
Sept. 30	24·14	5·0
Oct. 2	24·16	6·0
5	24·18	...
8	24·13	5·5

32 Vulpeculæ.

	20.48 s	
Sept. 24	43·21	...
28	43·21	...
30	43·25	...
Oct. 2	43·17	...
5	43·15	...

ζ Microscopii.

	20.54 s	
Sept. 30	12·09	5·0
Oct. 2	12·03	5·5
5	12·10	6·0
8	12·12	...

61[1] Cygni.

	h. m. s	Mag.
	21. 0	
Sept. 24	45·33	...
28	45·45	...
30	45·38	...
Oct. 2	45·31	...
5	45·33	...

ζ Cygni.

	21. 7 s	
Sept. 30	6·25	...
Oct. 2	6·32	...
5	6·23	...

β Aquarii.

	21.24 s	
Sept. 24	20·69	...
28	20·68	...
30	20·58	...
Oct. 2	20·66	...
5	20·66	...
8	20·66	...
14	20·63	...
16	20·67	...
19	20·61	...
Nov. 27	20·60	...

λ[1] Octantis.

	21.29 s	
Sept. 28	30·50	6·0
30	30·37	6·0

λ[2] Octantis.

	h. m. s	Mag.
	21.29	
Sept. 28	32·04	8·0
30	31·91	9·0
Oct. 2	31·92	8·5
14	31·77	...
16	31·93	...

ϵ Pegasi.

	21.37 s	
Sept. 24	27·33	...
28	27·35	...
30	27·34	...
Oct. 2	27·34	...
5	27·36	...
14	27·34	...
16	27·35	...
23	27·30	...
Nov. 20	27·38	...
27	27·33	...
Dec. 9	27·36	...

Gruis.

	21.43 s	
Sept. 30	5·62	9·0

γ Gruis.

	21.45 s	
Sept. 30	37·41	...
Oct. 2	37·35	3·0
5	37·41	3·0

Gruis.

	21.46 s	
Sept. 30	20·37	9·0
Oct. 2	20·44	9·0
5	20·33	9·0

16 Pegasi.

	h. m. s	Mag.
	21.46	
Sept. 22	49·68	...
24	49·77	...
Oct. 14	49·73	...
16	49·69	...
23	49·74	...
Nov. 6	49·73	...

ϵ Indi.

	21.52 s	
Sept. 24	51·12	4·0
28	51·24	3·5
30	51·21	4·5
Oct. 2	51·15	4·0
5	51·18	4·0
Nov. 27	51·27	...

α Aquarii.

	21.58 s	
Sept. 22	44·73	...
24	44·76	...
30	44·76	...
Oct. 5	44·76	...
8	44·78	...
14	44·76	...
16	44·73	...
23	44·79	...
27	44·77	...
Nov. 2	44·72	...
6	44·78	...
27	44·71	...
Dec. 9	44·72	...

α Gruis.

	21.59 s	
Sept. 22	34·86	...
24	34·95	...
30	34·81	...

α Gruis. (*continued*).

	h. m. 21.59 s	Mag.
Oct. 2	34·97	...
5	34·99	...
8	34·97	...
14	34·92	...
16	34·95	...
19	34·95	...
23	35·02	...
Nov. 2	34·99	...
6	34·96	...
27	34·88	...

θ Aquarii.

	22. 9 s	
Sept. 22	36·14	...
24	36·08	...
Oct. 2	36·10	...
5	36·13	...
14	36·17	...
16	36·15	...
23	36·18	...
27	36·17	...
Nov. 2	36·10	...
6	36·09	...
11	36·14	...
27	36·09	...
Dec. 9	36·12	...

η Aquarii.

	h. m. 22.28 s	Mag.
Sept. 30	18·97	...
Oct. 2	18·91	...
5	18·94	...
14	18·97	...
16	18·91	...
23	18·93	...
27	18·84	...
Nov. 2	18·91	...
6	18·94	...
11	18·95	...
27	18·87	...
Dec. 9	18·89	...

β Octantis.

	22.31 s	
Sept. 30	49·11	5·0
30	SP48·69	...

ζ Pegasi.

	22.34 s	
Oct. 14	37·67	...
16	37·73	...
23	37·69	...
27	37·76	...
Nov. 6	37·69	...
11	37·74	...
13	37·74	...

α Piscis Australis.

	h. m. 22.50 s	Mag.
Oct. 14	4·37	...
16	4·39	...
19	4·49	...
23	4·34	...
27	4·33	...
Nov. 6	4·39	...
11	4·30	...
13	4·39	...
27	4·50	...
Dec. 9	4·41	...
17	4·39	...

α Pegasi.

	22.57 s	
Oct. 19	56·30	...
27	56·20	...
Nov. 6	56·22	...
11	56·25	...
13	56·25	...
Dec. 9	56·22	...

γ Piscium.

	23.10 s	
Nov. 6	3·82	...
11	3·79	...
20	3·77	...

κ Piscium.

	h. m. 23.19 s	Mag.
Nov. 6	54·52	...
13	54·53	...
15	54·56	...
20	54·55	...

ι Piscium.

	23.32 s	
Nov. 6	54·28	...
13	54·27	...
15	54·19	...
20	54·24	...
24	54·28	...

δ Sculptoris.

	23.41 s	
Nov. 6	47·02	...
13	47·08	...
15	47·15	...
20	47·11	...
24	47·03	...

ω Piscium.

	23.52 s	
Nov. 6	16·62	...
15	16·62	...
20	16·58	...
24	16·57	...

MELBOURNE OBSERVATORY.

SEPARATE RESULTS

FOR

MEAN N.P.D. OF STARS

OBSERVED IN THE YEAR

1863.

	61°39′
Nov. 20	55·98
24	56·21

γ Pegasi.

	75°34′
Nov. 20	40·17
24	39·71

o Octantis.

	179° 7′
Nov. 20	29·64

β Hydri, S.P.

	168° 1′
Oct. 9	34·35

12 Ceti.

	94°52′
Dec. 3	52·63

β Ceti.

	108°44′
Nov. 20	20·18
24	20·48
Dec. 3	20·86

ε Piscium.

	82°50′
Nov. 20	53·25
24	53·16

ν Piscium.

	85°12′
Dec. 22	25·06

β Arietis.

	69°51′
Dec. 11	45·90
17	46·65
22	46·76

α Arietis.

	67°11′
Dec. 17	13·47
22	13·89

ξ^2 Ceti.

	82° 9′
Dec. 22	20·22

γ Ceti.

	87°20′
Dec. 11	35·93

α Ceti.

	86°26′
Dec. 22	59·00

Mensæ. Bris. 593.

	168°48′
Aug. 10	28·90

Mensæ. Bris. 593, S.P.

	168°48′
Aug. 10	30·18
11	30·60

γ Hydri.

	164°39′
Aug. 10	26·64
Dec. 7	28·25
17	27·97

γ Hydri, S.P.

	164°39′
Aug. 10	27·43
11	27·67

Mensæ. B.A.C. 1481, S.P.

	173°11′
Aug. 6	18·42

α Columbæ.

	124° 8′
July 24	58·18

α Orionis.

	82°37′
July 24	17·78
30	18·44
31	17·64

α Argûs.

	142°37′
July 24	19·15
30	19·61
31	19·97
Aug. 4	19·23
7	19·50

α Canis Majoris.

	106°31′
July 24	51·51
30	50·49
Aug. 7	51·30
9	50·20

ε Canis Majoris.

	118°47′
Aug. 4	16·63
9	15·10

γ Canis Majoris.

	105°25′
Aug. 9	58·59

Octantis. R.A. 7^h 34^m, S.P.

	176°47′
Sept. 9	32·51
11	32·09
18	33·01
24	32·43
30	33·02
Oct. 2	32·47

ζ Argûs.

	129°37′
Aug. 2	7·77

15 Argûs.

	113°54′
Aug. 2	41·31
7	40·90
9	39·45

β Argûs.

	159° 9′
Aug. 3	9·53

ι Argûs.	
	148°42′
Aug. 3	5·81
Sept. 24	4·13

ι Argûs, S.P.	
	148°41′
Sept. 24	63·07
30	59·34
Oct. 2	62·36
5	61·97

α Hydræ.	
	98° 3′
Aug. 3	59·88

ϵ Corvi.	
	111°51′
July 30	27·29

β Chamæleontis, S.P.	
	168°33′
Nov. 20	3·35

Crucis. B.A.C. 4186, S.P.	
	152°21′
Nov. 20	43·97

α^1 Crucis, S.P.	
	152°20′
Nov. 20	18·50
24	18·59
Dec. 3	19·81

α^2 Crucis, S.P.	
	152°20′
Nov. 20	20·76
Dec. 3	21·85

β Corvi.	
	112°38′
July 30	18·64

γ^1 Virginis.	
	90°41′
July 30	56·74

ι Octantis, S.P.	
	174°22′
Nov. 20	40·07
24	39·80
Dec. 3	39·56
7	40·64

α Virginis.	
	100°26′
Aug. 5	42·91

κ Octantis, S.P.	
	175° 4′
Dec. 11	48·66

β Centauri.	
	149°42′
Aug. 5	35·88

β Centauri, S.P.	
	149°42′
Dec. 17	30·84
22	34·76

δ Octantis.	
	173° 2′
July 30	5·89

δ Octantis, S.P.	
	173° 2′
Nov. 30	4·82
Dec. 17	5·71
22	5·64

α Boötis.	
	70° 6′
Aug. 5	6·97

α^1 Centauri, S.P.	
	150°15′
Dec. 17	57·19
22	56·76

α^2 Centauri.	
	150°16′
July 30	6·56
Aug. 5	7·22

α^2 Centauri, S.P.	
	150°16′
Dec. 17	5·74
22	5·44

α^2 Libræ.	
	105°28′
July 30	12·88

ψ Boötis.	
	62°30′
Aug. 10	57·94

β Libræ.	
	98°52′
Aug. 10	30·25
11	30·39

ρ Octantis.	
	173°59′
Aug. 11	51·19

ρ Octantis, S.P.	
	173°59′
Dec. 29	51·64

α Coronæ Borealis.	
	62°49′
July 8	20·14
Aug. 10	19·41
11	19·50

α Serpentis.	
	83° 8′
July 8	27·89
28	27·15
Aug. 10	26·78
11	27·08

β^1 Scorpii.	
	109°25′
July 8	38·76
Aug. 10	38·82

δ^1 Apodis.	
	168°20′
Aug. 11	32·64

δ^1 Apodis, S.P.	
	168°20′
Aug. 10	30·17
Dec. 7	32·77

δ Ophiuchi.	
	93°20′
July 8	20·04
28	20·16
Aug. 10	20·39
11	19·57

Octantis. B.A.C. 5412.	
	176° 5′
July 28	20·99
Aug. 10	20·77
11	21·26

Octantis. B.A.C. 5412, S.P.	
	176° 5′
Dec. 7	21·52
17	20·24

*R.A. 16h 17m 55s.	
	129°30′
July 8	25·39
13	26·31

α Scorpii.	
	116° 7′
July 20	29·35
Aug. 6	28·12
10	27·71

*R.A. 16h 22m 18s.	
	128°41′
July 8	55·57

*R.A. 16h 23m 53s.	
	138°35′
July 13	11·89

*R.A. 16h 24m 11s.	
	130°28′
July 17	29·67
20	30·64

Normæ. B.A.C. 5533.	
	132°34′
July 8	17·91

α Triang. Austr.	
	158°46′
July 8	11·49
28	12·77
Aug. 6	11·39
11	11·78

α Triang. Austr., S. P.	
	158°46′
Aug. 10	11·11
Dec. 17	9·65

ζ Herculis.	
	58° 8′
July 8	49·43
13	49·03
28	50·33
Aug. 11	49·47

κ Ophiuchi.	
	80°24′
July 28	32·93
Aug. 6	32·34

Apodis. B.A.C. 5794.	
	170°42′
Aug. 6	14·95

α Herculis.	
	75°27′
July 28	2·88
Aug. 6	1·87

θ Ophiuchi.	
	114°51′
July 28	32·75
Aug. 3	32·75
6	32·21

α Ophiuchi.	
	77°20′
July 28	14·25
Aug. 3	15·00
6	14·87

Octantis. B.A.C. 5936.	
	177°38′
Aug. 3	59·60

μ Herculis.	
	62°11′
Aug. 3	48·78
6	49·16

Telescopii. Lac. 7576.	
	135°55′
Sept. 9	12·56

ε Telescopii.	
	135°58′
Sept. 2	24·55

μ^1 Sagittarii.	
	111° 5′
July 28	28·04
Aug. 3	27·83
5	27·96
6	26·86
Sept. 2	27·72

η Sagittarii.	
	126°47′
Sept. 2	54·94
4	55·65
9	54·93

δ Sagittarii.	
	119°52′
Sept. 2	56·34
4	55·40
9	55·69

ε Sagittarii.	
	124°26′
Sept. 2	43·76
4	43·47

α Telescopii.	
	136° 2′
Sept. 9	21·41

α Lyræ.	
	51°20′
Aug. 31	31·75
Sept. 4	31·16
9	30·54

ϕ Sagittarii.	
	117° 7′
Aug. 31	40·22
Sept. 2	39·75
4	39·86

σ Sagittarii.	
	116°27′
Aug. 31	46·17
Sept. 2	47·31
4	48·74
9	48·32

ζ Sagittarii.	
	120° 4′
Aug. 31	18·49
Sept. 4	19·01
9	19·00

τ Sagittarii.	
	117°52′
Aug. 31	0·15
Sept. 2	0·71
4	0·64

α Coronæ Austr.	
	128° 6′
Sept. 4	49·23
9	48·98

β^1 Sagittarii.	
	134°42′
Aug. 31	42·28
Sept. 4	42·49
9	43·56

α Sagittarii.	
	130°52′
Aug. 31	9·91
Sept. 4	10·69
9	11·41

h^2 Sagittarii.	
	115°10′
Sept. 4	57·15
9	56·90
30	57·00
Oct. 2	56·62

γ Aquilæ.	
	79°43′
Sept. 24	3·55

α Aquilæ.	
	81°29′
Sept. 24	26·66

ι Sagittarii.	
	132°13′
Sept. 30	27·32
Oct. 2	27·18
5	27·10

β Aquilæ.	
	83°55′
Sept. 24	58·18
Oct. 2	57·93
5	57·71

c Sagittarii.	
	118° 5′
Sept. 30	14·50
Oct. 2	14·33
5	14·07

Octantis. B.A.C. 6859.	
	173°43′
Sept. 9	18·11
11	16·90
24	17·17

Sagittarii. R.A. 19h 56m 1s.	
	118° 7′
Oct. 8	39·08

Sagittarii. B.A.C. 6922.	
	126°26′
Sept. 28	32·38
30	32·70
Oct. 2	32·44
5	32·07

Capricorni. R.A. 20h 10m 1s.	
	102°56′
Sept. 28	18·01

α^1 Capricorni.	
	102°55′
Sept. 9	44·17
Oct. 2	40·40

α^2 Capricorni.	
	102°57′
Sept. 18	59·94
24	60·20
30	60·27
Oct. 2	59·13
5	59·27

α Pavonis.	
	147°10′
Sept. 4	13·53
9	12·86
18	11·69

Octantis. B.A.C. 6993.	
	171°44′
Sept. 24	37·38
30	36·72
Oct. 2	38·73
5	37·25

ρ Capricorni.	
	108°15′
Sept. 24	49·32
28	50·21
30	49·70
Oct. 2	49·02
5	48·49

Capricorni. B.A.C. 7044.	
	108°19′
Sept. 16	20·89

α Indi.	
	137°45′
Sept. 30	56·20
Oct. 2	56·41
5	55·89

Brisbane 6907[1].	
	140°58′
Oct. 8	42·37

Brisbane 6907[2].	
	140°59′
Oct. 8	50·75

α Cygni.	
	45°12′
Sept. 18	26·88
24	26·27
28	24·56
30	25·46
Oct. 2	25·28
5	23·43

α Microscopii.	
	124°16′
Sept. 30	60·88
Oct. 2	61·16
5	59·75
8	61·62

32 Vulpeculæ.	
	62°27′
Sept. 24	40·58
28	41·46
30	40·06
Oct. 2	40·82
5	39·61

ζ Microscopii.	
	129° 9′
Sept. 30	48·17
Oct. 2	48·11
5	47·94
8	48·39

61[1] Cygni.	
	51°55′
Sept. 24	19·96
28	18·74
30	19·61
Oct. 2	19·66
5	18·97

61[2] Cygni.	
	51°55′
Oct. 5	23·00

ζ Cygni.	
	60°19′
Sept. 30	59·37
Oct. 2	58·78
5	58·03

β Aquarii.	
	96°10′
Sept. 24	18·28
28	18·95
Oct. 2	20·52
5	18·49

λ[1] Octantis.	
	173°20′
Sept. 28	36·93
30	35·36
Oct. 2	36·20
5	37·04

λ[2] Octantis.	
	173°20′
Sept. 28	36·55
30	34·66
Oct. 2	35·59

ε Pegasi.	
	80°45′
Sept. 24	5·54
28	6·01
Oct. 2	5·11
5	5·19

Gruis. R.A. 21[h] 43[m] 6[s].	
	128° 2′
Sept. 30	47·61

γ Gruis.	
	128° 0′
Oct. 2	25·75
5	25·79

Gruis. R.A. 21[h] 46[m] 20[s].	
	128° 4′
Sept. 30	32·51

16 Pegasi.	
	64°43′
Sept. 24	4·42

ε Indi.	
	147°20′
Sept. 24	48·15
28	48·26
30	47·22
Oct. 2	47·34
5	47·73
Nov. 27	46·60

α Gruis.	
	137°37′
Sept. 24	20·59
30	19·93
Oct. 2	21·32
5	20·30
Nov. 27	19·51

θ Aquarii.	
	98°27′
Sept. 24	50·16
Oct. 2	50·77
5	50·95
Nov. 27	52·57

η Aquarii.	
	90°49′
Oct. 2	21·09
5	20·71

β Octantis.	
	172° 5′
Sept. 30	51·75
Oct. 2	51·32
5	52·35
Nov. 27	50·71

β Octantis, S.P.	
	172° 5′
Sept. 30	50·98

γ Piscium.	
	87°27′
Nov. 20	55·35

ι Piscium.	
	85° 8′
Nov. 20	57·21

γ^{1} Octantis.	
	172°46′
Nov. 20	49·17
24	47·72

α Piscis Austr.	
	120°20′
Nov. 27	49·95
Dec. 7	50·75
9	50·02
17	50·96

κ Piscium.	
	89°29′
Nov. 20	38·00

δ Sculptoris.	
	118°53′
Nov. 20	14·54
24	14·14

ω Piscium.	
	83°53′
Nov. 20	41·62
24	41·75

MELBOURNE OBSERVATORY.

CATALOGUE

OF

CONCLUDED MEAN RIGHT ASCENSIONS,

AND

MEAN NORTH POLAR DISTANCES,

FOR 1863, JANUARY 1,

OF

STARS OBSERVED IN THE YEAR 1863,

WITH THE

ANNUAL PRECESSIONS.

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1863, Jan. 1.	Precession in R.A.	Number of Obs. of N.P.D.	S.P.	Fraction of the Year for Mean.	Mean N.P.D. 1863, Jan. 1.	Precession in N.P.D.
					h. m. s.	s.				° ′ ″	″
1	α Andromedæ....	2·0	4	·89	0 1 18·61	+3·085	2		·89	61 39 56·10	—19·90
2	Ceti B.A.C. 12....	7·0	1	·91	0 2 54·17	3·071	...		...	93 19 24	...
3	γ Pegasi.....	2·7	5	·89	0 6 10·95	3·081	2		·89	75 34 39·94	20·03
4	Piscium B.A.C. 57	7·0	1	·91	0 10 45·51	3·073	...		...	89 4 23	...
5	o Octantis	8·0	...	...	0 13 18	...	1		·88	179 7 29·64	20·02
6	44 Piscium.....	7·0	1	·91	0 18 22·75	3·074	...		...	88 49 9	...
7	β Hydri	3·0	1	·58	0 18 30·26	3·286	1		·77	168 1 34·35	20·25
8	Piscium B.A.C. 97	7·5	1	·91	0 20 18·51	3·076	...		...	87 56 40	...
9	12 Ceti.....	6·0	2	·91	0 23 2·81	3·059	1		·92	94 52 52·63	19·94
10	Piscium B.A.C. 113	7·0	1	·91	0 23 6·15	3·081	...		...	85 53 52	...
11	15 Ceti	6·5	1	·91	0 31 4·22	3·068	...		...	91 15 26	...
12	Ceti Lal. 1097....	8·0	1	·91	0 34 32·74	3·075	...		...	89 0 12	...
13	β Ceti.....	2·0	6	·91	0 36 42·67	3·012	3		·90	108 44 20·51	19·82
14	Weisse 0·649.....	8·0	1	·91	0 38 3·41	3·076	...		...	88 56 28	...
15	60 Piscium.....	7·0	1	·91	0 40 18·52	3·096	...		...	84 0 25	...
16	Piscium B.A.C. 221	6·5	1	·91	0 41 11·89	3·091	...		...	85 25 26	...
17	Weisse 0·806.....	9·0	1	·91	0 46 36·80	3·078	...		...	88 49 58	...
18	Weisse 0·871.....	9·0	1	·91	0 50 39·28	3·079	...		...	88 38 49	...
19	ε Piscium	4·0	6	·91	0 55 50·08	3·110	2		·89	82 50 53·21	19·46
20	26 Ceti	6·5	1	·91	0 56 46·08	3·076	...		...	89 22 6	...
21	Weisse 0·1031....	10·0	1	·91	0 59 4·88	3·084	...		...	88 4 19	...
22	29 Ceti	6·5	1	·91	1 0 55·86	3·080	...		...	88 43 25	...
23	80 Piscium.....	6·0	1	·91	1 1 18·72	3·103	...		...	85 4 32	...
24	33 Ceti	6·5	1	·91	1 3 30·54	3·083	...		...	88 17 3	...
25	35 Ceti	7·0	1	·91	1 5 29·21	3·084	...		...	88 15 10	...
26	Piscium B.A.C. 397	7·5	1	·91	1 12 18·93	3·091	...		...	87 25 51	...
27	Weisse 1·229.....	9·5	1	·91	1 15 13·87	3·093	...		...	87 14 55	...
28	43 Ceti	6·5	1	·91	1 15 34·42	3·063	...		...	91 10 1	...
29	θ^1 Ceti	3·0	4	·93	1 17 10·59	2·996	...		...	98 53 28	...
30	Ceti B.A.C. 433...	6·0	1	·91	1 19 26·66	3·063	...		...	91 6 41	...
31	95 Piscium.....	7·0	1	·91	1 20 33·18	3·109	...		...	85 21 14	...
32	μ Piscium	5·5	1	·91	1 23 0·45	3·117	...		...	84 33 48	...
33	η Piscium	3·7	5	·92	1 24 9·32	3·197	...		...	75 21 40	...
34	α Eridani	1·0	2	·94	1 32 36·49	2·236	...		...	147 56 0	...
35	ν Piscium	4·7	5	·94	1 34 18·23	+3·113	1		·97	85 12 25·06	—18·34

No.	Name of Star.	Mag.	Number of Obs. of R.A.	Fraction of the Year for Mean.	Mean R.A. 1863, Jan. 1.	Pre-cession in R.A.	Number of Obs. of N.P.D.	S.P.	Fraction of the Year for Mean.	Mean N.P.D. 1863, Jan. 1.	Pre-cession in N.P.D.
					h. m. s.	s				° ′ ″	″
36	Piscium B.A.C. 551	6·0	1	·91	1 41 20·26	+3·102	...		...	86 59 58	...
37	ξ Piscium	5·5	1	·91	1 46 27·89	3·098	...		...	87 29 23	...
38	β Arietis	2·7	4	·96	1 47 4·58	3·295	3		·96	69 51 46·44	—17·79
39	α Arietis.....	2·0	5	·96	1 59 27·28	3·365	2		·96	67 11 13·68	17·24
40	67 Ceti	6·0	5	·96	2 10 9·05	2·986	...		...	97 3 17	...
41	ξ^2 Ceti	4·0	5	·97	2 20 52·67	3·179	1		·97	82 9 20·22	16·36
42	γ Ceti.....	3·3	5	·96	2 36 12·26	3·101	1		·94	87 20 35·93	15·39
43	α Ceti.....	2·3	2	·98	2 55 7·20	3·127	1		·97	86 26 59·00	14·37
44	δ Arietis.....	4·3	1	·99	3 3 47·93	+3·417	...		...	70 47 36	...
45	Mensæ Bris. 593..	6·5	3	·61	3 35 4·11	—2·379	1	2	·61	168 48 29·90	11·85
46	η Tauri	3·0	2	·96	3 39 20·67	+3·551	...		...	66 19 15	...
47	γ Hydri.....	3·4	5	·59	3 49 24·08	—1·031	3	2	·74	164 39 27·59	10·82
48	γ^1 Eridani.....	3·0	3	·96	3 51 38·30	+2·794	...		...	103 54 1	...
49	o^1 Eridani	4·3	2	·94	4 5 10·75	2·921	...		...	97 11 50	...
50	ε Tauri	3·7	2	·94	4 20 37·15	3·491	...		...	71 7 34	...
51	α Tauri	1·0	1	·96	4 28 3·71	3·434	...		...	73 46 8	...
52	MensæB.A.C. 1481	6·2	...	...	4 39 1	...	...	1	·59	173 11 18·42	6·94
53	β Orionis	1·0	2	·53	5 7 57·27	2·880	...		...	98 21 46	...
54	δ Orionis	2·0	7	·54	5 25 0·52	3·064	...		...	90 24 12	...
55	α Leporis	3·0	7	·54	5 26 41·28	2·646	...		...	107 55 22	...
56	ε Orionis	2·0	6	·55	5 29 15·76	3·041	...		...	91 17 32	...
57	α Columbæ	2·0	6	·55	5 34 41·29	2·178	1		·56	124 8 58·18	2·21
58	α Orionis	1·0	7	·55	5 47 45·31	3·246	3		·57	82 37 17·95	— 1·07
59	α Argûs	1·0	5	·56	6 20 54·64	1·330	5		·58	142 37 19·49	+ 1·83
60	α Canis Majoris...	1·0	8	·58	6 39 6·55	2·645	4		·58	106 31 50·88	4·63
61	ε Canis Majoris...	1·7	6	·60	6 53 14·50	2·353	2		·60	118 47 15·87	4·63
62	γ Canis Majoris...	4·3	3	·60	6 57 33·55	2·716	1		·60	105 25 58·59	4·98
63	α Canis Minoris...	1·0	2	·61	7 32 7·75	+3·145	...		...	84 25 36	...
64	Octantis.....	7·1	4	·70	7 33 56·01	—18·810	...	6	·72	176 47 32·59	7·99
65	ζ Argûs	3·0	1	·58	7 58 46·11	+2·111	1		·59	129 37 7·77	9·93
66	15 Argûs	3·0	4	·60	8 1 42·54	2·555	3		·59	113 54 40·55	10·09
67	β Argûs	1·5	1	·59	9 11 40·86	0·719	1		·59	159 9 9·53	14·89
68	ι Argûs	2·0	7	·73	9 13 25·28	1·602	4	2	·72	148 42 2·77	14·92
69	α Hydræ	2·0	2	·60	9 20 51·23	2·949	1		·59	98 3 59·88	+15·38
70	η Argûs	5·0	1	·78	10 39 45·09	+2·308	...		...	148 57 53	...

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					h. m. s.	s.				° ′ ″	″
71	ε Corvi	3·0	2	·70	12 3 4·95	+3·075	1		·57	111 51 27·29	+20·05
72	β Chamæleontis...	5·0	1	·57	12 10 23·11	3·327	...	1	·88	168 33 3·35	20·04
73	η Virginis	3·3	1	·57	12 12 53·86	3·065	...		...	89 54 9	...
74	Crucis B.A.C. 4186	4·5	2	·89	12 18 55·39	3.283	..	1	·88	152 21 43·97	19·99
75	α^1 Crucis	1·0	4	·87	12 19 0·13	3·260	...	3	·90	152 20 18·97	19·93
76	α^2 Crucis	3·0	3	·90	12 19 0·96	3·260	...	2	·90	152 20 21·31	19·93
77	β Corvi	2·3	3	·73	12 27 11·68	3·131	1		·57	112 38 18·64	19·98
78	γ^1 Virginis.....	2·7	2	·59	12 34 43·10	3·037	1		·57	90 41 56·74	19·87
79	ι Octantis	6·0	...	...	12 40 57	...	...	4	·91	174 22 40·02	19·74
80	θ Virginis	4·3	1	·61	13 2 51·48	3·098	...		...	94 48 25	...
81	α Virginis	1·0	2	·60	13 17 58·73	3·150	1	1	·59	100 26 42·91	18·94
82	κ Octantis	5·0	...	...	13 19 25	...	...		·91	175 4 48·66	18·86
83	ζ Virginis	3·3	1	·61	13 27 42·77	3·052	...		...	89 53 39	...
84	η Boötis	3·0	1	·56	13 48 9·72	2·858	...		...	70 54 51	...
85	β Centauri.....	1·0	4	·82	13 54 11·18	4·156	1	2	·84	149 42 33·83	17·68
86	τ Virginis	4·0	1	·56	13 54 40·60	3·047	...		...	87 47 26	...
87	θ Centauri	2·5	1	·78	13 58 37·77	3·547	...		...	125 41 39	...
88	δ Octantis.....	5·2	...	...	14 5 22	...	1	3	·85	173 2 5·53	17·13
89	α Boötis.....	1·0	3	·57	14 9 24·78	2·734	1		·59	70 6 6·97	18·92
90	ρ Boötis	3·7	1	·57	14 25 55·43	2·587	...		...	59 1 32	...
91	α^1 Centauri	4·0	...	...	14 30 19	...	...	2	·96	150 15 56·98	15·05
92	α^2 Centauri	1·0	3	·84	14 30 19·10	4·031	2	2	·77	150 16 6·24	15·05
93	ε Boötis	2·3	2	·60	14 39 0·24	2·619	...		...	62 20 47	...
94	α^2 Libræ	2·3	2	·60	14 43 18·25	3·305	1		·57	105 28 12·88	15·23
95	ψ Boötis.....	4·3	2	·61	14 58 34·48	2·570	1		·61	62 30 57·94	14·26
96	β Libræ	2·0	6	·64	15 9 38·24	3·218	2		·61	98 52 30·32	13·59
97	ρ Octantis.....	6·0	1	·61	15 12 15·24	12·531	1	1	·80	173 59 51·42	13·40
98	α Coronæ Borealis	2·0	6	·57	15 28 53·24	2·538	3		·58	62 49 19·68	12·36
99	α Serpentis	2·3	9	·62	15 37 31·24	2·949	4		·57	83 8 27·23	11·62
100	Scorpii Lal. 29185	8·0	1	·64	15 56 2·82	3·475	...		...	109 23	...
101	β^1 Scorpii.....	2·0	10	·58	15 57 28·47	3·476	2		·56	109 25 38·79	10·24
102	δ^1 Apodis	5·4	2	·61	16 0 0·33	8·687	1	2	·71	168 20 31·86	10·03
103	δ Ophiuchi.....	3·0	8	·58	16 7 10·07	3·136	4		·57	93 20 20·04	9·60
104	Octan. B.A.C. 5412	6·5	2	·61	16 10 41·33	20·447	3	2	·73	176 5 20·96	9·21
105	*	8·2	3	·53	16 17 55·39	+4·067	2		·52	129 30 25·85	+ 8·64

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					h. m. s.	s.				° ′ ″	″
106	α Scorpii	1·3	11	·64	16 21 0·68	+3·666	3		·58	116 7 28·39	+ 8·42
107	*	7·3	3	·53	16 22 18·47	4·047	1		·51	128 41 55·57	8·29
108	*	...	1	·53	16 23 53·38	4·457	1		·53	138 35 11·89	8·17
109	*	7·5	2	·54	16 24 10·63	4·115	2		·54	130 28 30·16	8·14
110	NormæB. A. C. 5533	6·0	1	·51	16 26 44·80	4·200	1		·51	132 34 17·91	7·94
111	α Trianguli Austr.	2·0	11	·62	16 34 11·43	6·275	4	2	·64	158 46 11·37	7·41
112	ζ Herculis	2·7	9	·58	16 36 7·33	2·262	4		·55	58 8 49·57	6·73
113	κ Ophiuchi.....	3·3	5	·59	16 51 11·09	2·834	2		·58	80 24 32·64	5·91
114	ApodisB. A. C. 5794	6·2	...	...	17 5 55	...	1		·59	170 42 14·95	4·69
115	α Herculis	3·5	3	·59	17 8 24·06	2·732	2		·58	75 27 2·38	4·43
116	θ Ophiuchi.....	3·3	6	·59	17 13 35·83	3·676	3		·58	114 51 32·57	4·02
117	α Ophiuchi.....	2·0	4	·59	17 28 34·51	2·781	3		·58	77 20 14·71	2·95
118	Octan. B. A. C. 5936	6·0	...	...	17 34 7	...	1		·59	177 38 59·60	2·26
119	μ Herculis	3·3	3	·59	17 41 5·85	2·342	2		·59	62 11 48·97	2·39
120	Telesc. Lac. 7576	7·0	1	·67	17 59 55·56	4·453	1		·69	135 55 12·56	+ 0·01
121	ε Telescopii	4·3	3	·68	18 1 3·68	4·455	1		·67	135 58 24·55	— 0·09
122	μ^1 Sagittarii	3·5	9	·63	18 5 34·19	3·584	5		·60	111 5 27·68	0·48
123	η Sagittarii.....	4·0	4	·69	18 8 21·35	4·072	3		·68	126 47 55·17	0·73
124	δ Sagittarii.....	3·5	3	·68	18 12 13·39	3·839	3		·68	119 52 55·81	1·07
125	ε Sagittarii.....	3·2	3	·68	18 15 4·72	3·987	2		·67	124 26 43·62	1·32
126	α Telescopii	5·0	1	·69	18 16 48·76	4·042	1		·69	136 2 21·41	1·47
127	α Lyræ	1·0	4	·67	18 32 17·88	2·030	3		·67	51 20 31·15	3·11
128	φ Sagittarii	4·0	4	·67	18 37 5·74	3·748	3		·67	117 7 39·94	3·23
129	β Lyræ	3·0	5	·67	18 45 1·27	2·212	...		...	56 47 40	...
130	σ Sagittarii.....	3·9	4	·67	18 46 46·11	3·724	4		·67	116 27 47·64	4·06
131	ζ Sagittarii	3·5	3	·67	18 53 53·55	3·825	3		·67	120 4 18·83	4·67
132	τ Sagittarii	4·5	4	·67	18 58 23·05	3·756	3		·67	117 52 0·50	5·05
133	ζ Aquilæ	3·0	2	·66	18 59 6·72	2·752	...		...	76 20 12	...
134	α Coronæ Austr...	5·0	2	·68	19 0 8·84	4·085	2		·68	128 6 49·11	5·20
135	Aquilæ Lal. 36269	8·0	1	·64	19 10 14·97	2·815	...		...	78 35	...
136	ω Aquilæ	5·7	7	·68	19 11 23·09	2·814	...		...	78 38 55	...
137	β^1 Sagittarii	4·8	3	·67	19 12 46·88	4·330	3		·67	134 42 42·78	6·26
138	α Sagittarii	4·3	4	·69	19 14 23·27	4·169	3		·67	130 52 10·67	6·40
139	δ Aquilæ	3·3	10	·68	19 18 35·35	3·024	...		...	87 9 19	...
140	h^2 Sagittarii	4·7	11	·70	19 28 21·99	+3·656	4		·71	115 10 56·92	— 7·56

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					h. m. s.	s				° ′ ″	″
141	γ Aquilæ	3·0	15	·69	19 39 44·69	+2·852	1		·73	79 43 3·55	— 8·46
142	α Aquilæ	1·3	13	·69	19 44 5·84	2·927	1		·73	81 29 26·66	9·18
143	ι Sagittarii	4·7	4	·75	19 45 48·09	4·158	3		·75	132 13 27·20	8·93
144	β Aquilæ	4·0	13	·71	19 48 34·91	2·946	3		·75	83 55 57·94	8·67
145	c Sagittarii.....	5·3	4	·75	19 54 13·78	3·699	3		·75	118 5 14·30	9·59
146	Octan. B.A.C.6859	6·5	1	·73	19 55 13·45	13·720	3		·70	173 43 17·39	9·66
147	Sagittarii	8·0	1	·77	19 56 0·60	3·697	1		·77	118 7 39·08	9·72
148	Sagittarii	8·0	1	·77	19 56 52·36	3·698	...		...	118 12	...
149	Sagitt. B.A.C.6922	5·8	5	·75	20 2 11·48	3·922	4		·75	126 26 32·40	10·19
150	Capricorni	9·0	1	·73	20 10 1·15	3·331	1		·74	102 56 18·01	10·78
151	α^1 Capricorni.....	4·0	8	·73	20 10 3·08	3·331	2		·72	102 55 42·29	10·78
152	α^2 Capricorni.....	3·3	13	·72	20 10 27·02	3·333	5		·74	102 57 59·76	10·81
153	α Pavonis	2·0	8	·70	20 14 47·25	4·799	3		·69	147 10 12·69	11·10
154	Octan. B.A.C.6993	6·1	5	·74	20 14 52·54	10·740	4		·75	171 44 37·52	11·13
155	ρ Capricorni	5·0	12	·72	20 21 2·56	3·426	5		·74	108 15 49·35	11·57
156	Capric. B.A.C.7044	7·0	2	·73	20 21 11·03	3·433	1		·71	108 19 20·89	11·59
157	α Indi.....	3·3	4	·75	20 27 55·03	4·249	3		·75	137 45 56·17	12·06
158	Brisbane[1] 6907....	7·0	...	...	20 35	...	1		·77	140 58 42·37	12·56
159	Brisbane[2] 6907....	7·0	...	...	20 35	...	1		·77	140 59 50·75	12·56
160	α Cygni	1·7	6	·74	20 36 45·55	2·043	6		·74	45 12 25·31	12·67
161	α Microscopii	5·5	4	·75	20 41 24·15	3·767	4		·75	124 17 0·85	12·98
162	32 Vulpeculæ	5·3	5	·74	20 48 43·20	2·554	5		·74	62 27 40·51	13·47
163	ζ Microscopii.....	5·5	4	·75	20 54 12·09	3·861	4		·75	129 9 48·15	13·82
164	61[1] Cygni	5·3	5	·74	21 0 45·36	2·673	5		·74	51 55 19·21	17·47
165	61[2] Cygni	...	...	...	21 0 47	...	1		·76	51 55 23·00	17·47
166	ζ Cygni	3·0	3	·75	21 7 6·27	2·548	3		·75	60 19 58·73	14·54
167	β Aquarii	3·0	10	·78	21 24 20·64	3·163	4		·74	96 10 19·06	15·61
168	λ[1] Octantis	6·0	2	·74	21 29 30·44	10·065	4		·75	173 20 36·38	15·88
169	λ[2] Octantis	8·5	5	·76	21 29 31·91	10·065	3		·74	173 20 35·60	15·88
170	ε Pegasi	2·3	11	·80	21 37 27·34	2·948	4		·74	80 45 5·46	16·30
171	Gruis	9·0	1	·74	21 43 5·62	3·661	1		·74	128 2 47·61	16·58
172	γ Gruis	3·0	3	·75	21 45 37·39	3·650	2		·75	128 0 25·77	16·71
173	Gruis	9·0	3	·75	21 46 20·38	3·649	1		·74	128 4 32·51	16·74
174	16 Pegasi	5·3	6	·78	21 46 49·72	2·726	1		·73	64 43 4·42	16·76
175	ε Indi.....	4·0	6	·77	21 52 51·20	+4·628*	6		·77	147 20 47·55	—17·05

* This includes $+\ 0^{s}\cdot457$ for proper motion in R.A.

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					h. m. s.	s				° ′ ″	″
176	α Aquarii	3·0	13	·80	21 58 44·75	+3·083	...		...	90 59 2	...
177	α Gruis	2·0	13	·79	21 59 34·94	3·818	5		·78	137 37 20·33	—17·17
178	θ Aquarii	4·3	13	·81	22 9 36·13	3·170	4		·78	98 27 51·11	17·74
179	η Aquarii	3·7	12	·82	22 28 18·92	3·082	2		·75	90 49 20·90	18·42
180	β Octantis	4·7	2	·74	22 31 48·90	6·687	4	1	·78	172 5 51·48	18·59
181	ζ Pegasi.....	3·3	7	·82	22 34 37·72	2·987	...		...	79 52 57	...
182	α Piscis Austr.....	1·3	11	·85	22 50 4·39	3·330	4		·93	120 20 50·42	18·96
183	α Pegasi.....	2·0	6	·85	22 57 56·24	2·983	...		...	75 31 50	...
184	γ Piscium	4·0	3	·86	23 10 3·79	3·106	1		·88	87 27 55·35	19·57
185	κ Piscium	4·7	4	·87	23 19 54·54	3·075	1		·88	89 29 38·00	19·63
186	ι Piscium	4·3	5	·87	23 32 54·25	3·084	1		·88	85 8 57·21	19·46
187	δ Sculptoris	4·3	5	·87	23 41 47·08	3·133	2		·89	118 53 14·34	19·92
188	γ^1 Octantis	5·5	...	...	23 43 57	...	2		·89	172 46 48·45	20·01
189	ω Piscium.....	4·0	4	·87	23 52 16·60	+3·077	2		·89	83 53 41·69	—19·91

MELBOURNE OBSERVATORY.

SEPARATE RESULTS

FOR

MEAN R.A. OF STARS

OBSERVED IN THE YEAR

1864.

α Andromedæ.

	h. m. 0. 1 s	Mag.
June 20	21·64	...
Nov. 13	21·79	...
15	21·75	...
16	21·68	...
21	21·71	...
29	21·71	...

γ^3 Octantis.

	0. 3 s	
June 20	48·39	...
21	sp48·13	...
30	sp47·54	...

γ Pegasi.

	0. 6 s	
June 3	14·12	...
14	14·04	...
Oct. 25	14·12	...
28	14·13	...
Nov. 15	14·07	...
16	14·05	...
18	14·09	...
21	14·00	...
29	14·10	...

π Tucanæ.

	0.14 s	
May 10	sp19·38	...
19	sp19·32	...
23	sp19·26	...

β Hydri.

	0.18 s	
May 19	sp33·08	...
29	sp32·87	...

β Hydri. *(continued).*

	h.m. 0.18 s	Mag.
May 29	32·74	...
30	sp33·15	...
June 1	33·10	...
3	sp32·76	...
3	32·91	...
13	sp33·22	...
14	sp33·13	...
14	32·95	...
16	sp33·43	...
18	sp33·19	...
Oct. 25	33·13	...
Nov. 29	32·87	...
29	sp33·02	...
Dec. 4	33·10	...
4	sp33·19	...
5	33·04	...
5	sp33·15	...
6	33·16	...
7	33·46	...
9	33·17	...

12 Ceti.

	0.23 s	
June 14	5·86	...
Nov. 15	5·90	...
18	5·84	...
29	5·86	...
Dec. 5	5·79	...

Tucanæ. B.A.C. 140.

	0.27 s	
May 10	sp36·33	...
Nov. 16	35·98	6·5
18	35·89	...

β Ceti.

	h.m. 0.36 s	Mag.
Jan. 20	45·63	...
June 14	45·57	...
20	45·72	...
28	45·72	...
30	45·63	...
Nov. 18	45·62	...
Dec. 4	45·67	...
5	45·64	...
7	45·69	...
9	45·61	...
12	45·66	...

λ Hydri.

	0.43 s	
May 19	sp51·46	...
30	sp51·61	...
Nov. 18	51·26	6·0

Octantis. N.P.D. 174°29′.

	0.49 s	
June 28	19·40	7·5

ε Piscium.

	0.55 s	
June 28	53·25	...
Dec. 4	53·18	...
5	53·16	...
7	53·21	...
9	53·21	...
12	53·24	...

ι Tucanæ.

	h. m. 1. 1 s	Mag.
May 30	sp54·79	...
Dec. 9	55·01	5·5
12	54·88	...

Octantis. N.P.D. 174° 19′.

	1. 6 s	
June 16	sp16·84	...
20	sp15·85	...
27	sp16·62	7·5
28	16·92	...
30	sp16·59	...
30	16·46	...
July 1	sp16·70	...

κ Tucanæ.

	1.11 s	
May 12	sp 9·15	...
23	sp 9·04	...
30	sp 8·92	...

θ^1 Ceti.

	1.17 s	
Jan. 20	13·58	...
June 28	13·60	...
Dec. 4	13·52	...
7	13·61	...
9	13·54	...
12	13·50	...

η Piscium.

	h. m. s	Mag.
	1.24	
Jan. 20	12·51	...
Nov. 21	12·56	...
Dec. 4	12·57	...
7	12·52	...
9	12·44	...
12	12·49	...
21	12·52	...

α Eridani.

	h. m. s	Mag.
	1.32	
Jan. 20	38·69	...
June 16	SP38·66	...
July 22	SP38·57	...
Dec. 4	38·76	...

Hydri. B.A.C. 512.

	h. m. s	Mag.
	1.32	
June 27	SP47·45	...
30	SP47·05	...
July 13	SP47·42	...
13	47·36	...

ν Piscium.

	h. m. s	Mag.
	1.34	
June 28	21·40	...
Nov. 21	21·32	...
Dec. 4	21·36	...
21	21·31	...

Octantis. B.A.C. 557.

	h. m. s	Mag.
	1.41	
June 16	SP43·42	...
28	SP43·29	...
30	SP42·97	...

Octantis. B.A.C. 557. *(continued).*

	h. m. s	Mag.
	1.41	
July 11	SP43·42	...
13	SP43·39	6·0
13	43·75	...
15	SP43·63	...
15	43·58	...
22	SP43·38	...

Octantis. Brisbane 277.

	h. m. s	Mag.
	1.45	
June 16	SP37·93	...
July 13	SP37·88	6·0

β Arietis.

	h. m. s	Mag.
	1.47	
Dec. 5	7·84	...
19	7·88	...
21	7·88	...
30	7·90	...

α Hydri.

	h. m. s	Mag.
	1.54	
June 30	SP28·95	...
July 11	SP29·07	...
13	SP28·97	...
13	29·16	3·0

α Arietis.

	h. m. s	Mag.
	1.59	
Dec. 5	30·77	...
19	30·71	...
21	30·71	...
30	30·71	...

Octantis. B.A.C. 655.

	h. m. s	Mag.
	2. 0	
July 11	SP0·75	7·0
13	SP0·78	6·5
13	0·36	...
15	SP0·86	...
15	0·38	...

67 Ceti.

	h. m. s	Mag.
	2.10	
July 29	12·05	...
Aug. 2	12·08	...
Dec. 19	12·04	...
30	12·03	...

Hydri. B.A.C. 711.

	h. m. s	Mag.
	2.10	
June 29	SP24·27	6·0
30	SP23·59	...
July 5	SP24·01	...
13	24·17	...

δ Hydri.

	h. m. s	Mag.
	2.19	
June 29	SP20·30	4·5
30	SP20·10	5·0
July 5	SP20·35	...

ξ^2 Ceti.

	h. m. s	Mag.
	2.20	
Jan. 6	55·84	...
Aug. 2	55·84	...
Dec. 19	55·85	...
21	55·85	...
30	55·82	...

μ Hydri.

	h. m. s	Mag.
	2.34	
July 26	SP38·48	...
27	38·47	...
28	SP38·54	...
30	SP38·65	...
Aug. 2	38·89	...
3	SP38·72	6·0
3	38·98	6·0

γ Ceti.

	h. m. s	Mag.
	2.36	
Jan. 6	15·32	...
Feb. 9	15·35	...
11	15·40	...
July 29	15·41	..
Nov. 29	15·33	...
Dec. 19	15·34	...
21	15·37	...
30	15·34	...

ϵ Hydri.

	h. m. s	Mag.
	2.37	
June 29	SP30·57	4·5
July 5	SP30·39	...
11	SP30·48	...
13	30·64	...

α Ceti.

	h. m. s	Mag.
	2.55	
Jan. 4	10·37	...
6	10·40	...
Nov. 29	10·35	...
Dec. 5	10·36	...
7	10·30	...
30	10·32	...

Octantis. N.P.D. 178°59′.

	h. m. s	Mag.
Aug. 3	2.59 SP11·35	8·5
3	10·52	8·5

θ Hydri.

	3. 2 s	
June 29	SP0·05	5·5
30	SP0·04	...
July 15	SP0·00	6·5

δ Arietis.

	3. 3 s	
Jan. 4	51·34	...
6	51·38	...
12	51·37	...
14	51·31	...
July 27	51·35	...
Nov. 29	51·34	...
Dec. 7	51·29	...
21	51·46	...

α Persei.

	3.14 s	
Nov. 29	37·66	...

Mensæ. Lacaille 1236.

	3.24 s	
Aug. 7	SP0·22	7·0

Octantis. N.P.D. 178°42′.

	3.27 s	
Aug. 3	32·59	7·0

Hydri. B.A.C. 1108.

	h. m. s	Mag.
July 13	3.27 SP56·51	7·0
15	SP56·46	7·0
22	SP56·28	7·0

Mensæ. Brisbane 593.

	3.35 s	
Aug. 3	1·66	5·5
7	SP1·30	...
7	1·43	...
19	SP1·45	...
21	SP1·28	...
23	1·52	...

η Tauri.

	3.39 s	
Jan. 4	24·29	...
6	24·13	...
14	24·20	...
17	24·14	...
20	24·19	...
25	24·23	...
Aug. 14	24·30	...
Dec. 4	24·16	...

Mensæ. B.A.C. 1200.

	3.42 s	
Aug. 3	36·39	...
19	SP36·07	6·5
22	SP36·10	...
23	36·07	...

v^2 Eridani.

	3.44 s	
May 18	21·91	...

γ Hydri.

	h. m. s	Mag.
	3.49	
May 19	23·09	...
Aug. 3	23·37	...
7	SP23·05	3·0
7	23·02	...
18	23·11	...
19	SP23·13	...
22	SP22·95	...
23	SP23·10	...
23	23·17	...
25	SP23·04	...
25	23·10	...

γ^1 Eridani.

	3.51 s	
Jan. 4	41·04	...
6	41·13	...
10	41·14	...
12	41·16	...
14	41·07	...
17	41·14	...
20	41·05	...
25	41·09	...
29	41·12	...
May 19	41·08	...
Aug. 7	41·05	...
14	41·09	...
18	41·02	...
Dec. 4	41·12	...

o^1 Eridani.

	4. 5 s	
Jan. 4	13·70	...
10	13·67	...
14	13·72	...
17	13·71	...
18	13·72	...
20	13·64	...
25	13·67	...
27	13·74	...
29	13·64	...

o^1 Eridani. *(continued)*

	h. m. s	Mag.
	4. 5	
Feb. 3	13·67	...
Mar. 11	13·71	...
Aug. 14	13·61	...
Dec. 9	13·70	...

Reticuli. B.A.C. 1297.

	4. 5 s	
July 25	SP53·34	...
28	SP53·50	...
Aug. 2	SP53·59	...

η Reticuli.

	4.20 s	
Aug. 12	25·60	...
18	25·49	...
23	25·58	...

ε Tauri.

	4.20 s	
Jan. 4	40·65	...
10	40·68	...
17	40·63	...
18	40·67	...
25	40·63	...
27	40·61	...
29	40·62	...
Feb. 3	40·62	...
Mar. 11	40·67	...
Dec. 9	40·70	...

δ Mensæ.

	4.27 s	
Sept. 1	SP16·56	...
3	SP16·42	...

α Tauri.

	h. m. s	Mag.
	4.28	
Jan. 1	7·10	...
10	7·10	...
12	7·11	...
14	7·20	...
18	7·14	...
25	7·16	...
27	7·12	...
29	7·16	...
Feb. 3	7·10	...
9	7·14	...
Mar. 11	7·11	...

Mensæ. B.A.C. 1454.

	h. m. s	Mag.
	4.33	
July 25	SP 9·47	6·5
28	SP 9·46	5·5
Aug. 2	SP 9·99	6·0
21	SP 9·58	6·0
24	SP 9·77	6·0
25	SP 9·90	...
25	9·95	...
26	9·60	...
27	SP 9·73	6·0
Sept. 1	SP 9·70	...
3	SP 9·94	...

Mensæ. B.A.C. 1481.

	h. m. s	Mag.
	4.38	
Aug. 2	SP53·36	7·0
21	SP53·07	...
24	SP52·87	...
25	SP53·51	6·5
26	52·80	...
27	SP52·92	6·5
Sept. 1	SP52·81	...
3	SP53·27	...
3	52·82	...

ι Aurigæ.

	h. m. s	Mag.
	4.48	
Jan. 1	8·26	...
10	8·40	...
18	8·36	...
Feb. 1	8·34	...
3	8·46	...

Mensæ. B.A.C. 1587.

	4.59 s		Mag.
Aug. 5	SP	7·53	6·0
19	SP	7·36	6·5
24	SP	7·37	5·0

ϵ Leporis.

	h. m. s	Mag.
	4.59	
Jan. 1	42·28	...
12	42·24	...
14	42·27	...
18	42·35	...
25	42·31	...
27	42·34	...
Feb. 1	42·30	...
3	42·28	...
9	42·28	...
Mar. 22	42·30	...

α Aurigæ.

	h. m. s	Mag.
	5. 6	
Jan. 10	38·83	...
Feb. 1	38·72	...
3	38·65	...
9	38·76	...

β^2 Orionis.

	h. m. s	Mag.
	5. 7	
Jan. 14	59·90	9·0

β Orionis.

	h. m. s	Mag.
	5. 8	
Jan. 1	0·19	...
10	0·15	...
12	0·15	...
14	0·21	...
17	0·20	...
18	0·17	...
27	0·20	...
Feb. 15	0·20	...
April 19	0·07	...

θ Doradus.

	5.13 s		Mag.
Feb. 17	52·05		6·0
22	52·04		5·0
26	52·26		...

Mensæ. B.A.C. 1675.

	5.14 s		Mag.
Aug. 24	SP	28·32	...
27	SP	27·71	6·0
Sept. 5	SP	28·20	6·5
6	SP	28·16	6·0
6		27·96	...
7	SP	28·17	...
8	SP	28·12	...
10		28·17	...
12		28·56	...
15		28·33	...

β Tauri.

	5.17 s		Mag.
Jan. 1	41·74		...
12	41·77		...
18	41·68		...
25	41·72		...
27	41·68		...

β Tauri. *(continued).*

	h. m. s	Mag.
	5.17	
Feb. 1	41·76	...
3	41·76	...
11	41·80	...
12	41·80	...
15	41·77	...
17	41·77	...
22	41·77	...
26	41·73	...
Mar. 22	41·76	...

δ Orionis.

	5.25 s	Mag.
Jan. 25	3·55	...
Feb. 9	3·55	...
11	3·56	...
12	3·65	...
15	3·58	...
17	3·57	...
19	3·51	...
22	3·51	...
26	3·56	...
Mar. 22	3·55	...
Sept. 6	3·49	...
12	3·48	...

α Leporis.

	5.26 s	Mag.
Jan. 1	43.97	...
12	43·94	...
14	43·93	...
Feb. 1	44·01	...
3	44·01	...
9	43·95	...
11	43·97	...
12	43·90	...
15	43·94	...
17	43·95	...
19	43·91	...
Sept. 6	44·02	...
12	43·93	...

Mensæ. Lacaille 2066.

	h. m. s	Mag.
	5.28	
Aug. 5	SP18·94	...
24	SP19·43	6·5
25	SP19·27	7·0
27	SP19·20	6·5
Sept. 1	SP19·46	7·0
3	SP19·22	7·0
5	SP19·49	7·0
6	SP19·34	7·5
7	SP19·20	...
8	SP19·50	7·0
13	SP19·03	...

ϵ Orionis.

	h. m. s	Mag.
	5.29	
Jan. 12	18·79	...
25	18·85	...
Feb. 9	18·80	...
11	18·80	...
12	18·81	...
15	18·81	...
17	18·82	...
19	18·82	...
22	18·80	...
26	18·80	...
Mar. 22	18·84	...
Sept. 6	18·72	...

α Columbæ.

	h. m. s	Mag.
	5.34	
Jan. 1	43·54	...
14	43·49	...
18	43·51	...
25	43·55	...
29	43·51	...
Feb. 1	43·57	...
3	43·49	...
11	43·47	...
12	43·50	...

α Columbæ. *(continued).*

	h. m. s	Mag.
	5.34	
Feb. 17	43·44	...
26	43·48	...
Mar. 22	43·46	...
23	43·47	...
Sept. 6	43·55	...

α Orionis.

	h. m. s	
	5.47	
Feb. 1	48·55	...
22	48·60	...
26	48·56	...

Mensæ. B.A.C. 1898.

	h. m. s	
	5.48	
Feb. 11	2·66	6·5
12	2·59	6·0
15	2·90	6·0

γ Columbæ.

	h. m. s	
	5.52	
Feb. 22	42·93	5·5
26	42·95	6·0

Mensæ. B.A.C. 1969.

	h. m. s	
	5.59	
Feb. 11	27·72	6·0
12	27·81	6·0
15	27·91	6·0

ν Orionis.

	h. m. s	Mag.
	5.59	
Feb. 1	48·38	...
17	48·43	...
19	48·43	...
22	48·37	...
26	48·40	...
28	48·40	...

Columbæ. N.P.D. 127°11′.

	h. m. s	
	6. 2	
Feb. 22	39·15	7·5
26	39·21	8·0

η^2 Doradus.

	h. m. s	
	6.10	
Feb. 11	57·37	5·5
12	57·42	5·5
15	57·35	5·0
Aug. 5	SP57·36	...

Mensæ. B.A.C. 2085.

	h. m. s	
	6.15	
Aug. 23	SP34·19	...
24	SP34·87	...
25	SP34·84	...
27	SP34·03	6·5
Sept. 1	SP35·39	7·0
8	SP34·37	7·0

α Argûs.

	h. m. s	
	6.20	
Feb. 12	55·91	...
15	55·90	...
26	56·01	...
Mar. 4	55·91	...
9	55·95	...

Argûs. Brisbane 1244.

	h. m. s	Mag.
	6.21	
Feb. 17	48·32	8·0
19	48·39	7·5
22	48·34	7·5
26	48·37	...

π^1 Doradus.

	h. m. s	
	6.23	
Feb. 11	55·17	5·5
12	55·15	6·0
15	55·24	6·0

Canis Majoris. B.A.C. 2158.

	h. m. s	
	6.29	
Feb. 17	3·50	7·0
19	3·49	6·5
22	3·47	6·0
26	3·49	5·5

γ Geminorum.

	h. m. s	
	6.29.	
Feb. 12	51·21	...
28	51·29	...
Mar. 4	51·30	...
7	51·28	...
11	51·21	...

α Canis Majoris.

	h. m. s	
	6.39	
Feb. 11	9·18	...
12	9·21	...
15	9·15	...
17	9·17	...
22	9·19	...
26	9·20	...
28	9·21	...

α Canis Majoris. *(continued).*

	h. m. s	Mag.
	6.39	
Mar. 4	9·14	...
7	9·17	...
9	9·17	...
11	9·20	...
15	9·15	...

x Puppis.

	h. m. s	Mag.
	6.42	
Feb. 17	42·16	7·0
19	42·13	6·5
22	42·16	6·0
26	42·21	6·0

Canis Majoris. N.P.D. 122°23′.

	h. m. s	
	6.44	
Feb. 26	27·26	7·0
28	27·14	8·0

κ Canis Majoris.

	h. m. s	
	6.44	
Feb. 28	45·69	4·0

τ Argûs.

	h. m. s	
	6.46	
Feb. 17	33·67	5·0
19	33·72	5·0
26	33·72	3·5
28	33·70	3·5

α Pictoris.

	h. m. s	
	6.46	
Feb. 11	47·62	3·5
12	47·71	3·5
15	47·71	3·5
Mar. 9	47·53	...

ζ Mensæ.

	h. m. s	Mag.
	6.51	
Mar. 13	18·65	6·0
Apl. 14	SP18·71	...
Aug. 26	SP18·52	...
31	SP18·45	...
Sept. 1	SP18·42	6·0
9	SP18·13	...

ε Canis Majoris.

	h. m. s	
	6.53	
Feb. 11	16·88	...
12	16·89	...
15	16·92	...
17	16·94	...
19	16·89	...
22	16·93	...
26	16·88	...
28	16·87	...
Mar. 4	16·86	...
7	16·88	...
9	16·98	...
11	16·88	...
13	16·90	...
15	16·90	...

Canis Majoris. N.P.D. 118°47′.

	h. m. s	
	6.53	
Feb. 22	44·18	8·0
26	44·19	8·0

γ Canis Majoris.

	h. m. s	
	6.57	
Feb. 11	36·35	...
19	36·35	...
22	36·33	...
26	36·39	...
28	36·35	...

γ Canis Majoris. *(continued).*

	h. m. s	Mag.
	6.57	
Mar. 4	36·35	...
7	36·36	...
11	36·36	...
13	36·35	...
15	36·32	...

γ^1 Volantis.

	h. m. s	
	7. 9	
Feb. 12	51·12	6·5

γ^2 Volantis.

	h. m. s	
	7. 9	
Feb. 11	53·36	5·0
12	53·42	5·0
15	53·44	5·0

δ Geminorum.

	h. m. s	
	7.11	
Feb. 28	59·91	...
Mar. 7	59·90	..
9	59·89	...
13	59·84	...
15	59·91	...
22	59·95	...
23	59·87	...

δ Volantis.

	h. m. s	
	7.16	
Feb. 15	53·46	5·0
Mar. 7	53·20	3·5
11	53·35	5·0

Canis Majoris. N.P.D. 119°2′.

	h. m. s	Mag.
	7.18	
Mar. 22	29·85	7·0
23	29·88	7·5

η Canis Majoris.

	h. m. s	
	7.18	
Mar. 15	43·05	...
22	42·97	3·0
23	43·01	3·5

Mensæ. Lacaille 2936.

	h. m. s	
	7.18	
Sept. 1	SP47·31	8·0
3	SP47·12	8·0
8	SP47·10	8·0
13	SP47·04	...

α^1 Geminorum.

	h. m. s	
	7.25	
Feb. 15	54·64	...

α^2 Geminorum.

	h. m. s	
	7.25	
Feb. 15	55·10	...
Mar. 7	55·14	...
9	55·06	...
11	55·03	...
13	55·02	...
23	55·03	...
Apl. 21	55·05	...
23	55·02	...

α Canis Minoris.

	h. m. 7.32 s	Mag.
Feb. 11	10·92	...
15	10·90	...
Mar. 9	10·90	...
13	10·90	...
22	10·93	...
23	10·96	...

Octantis. N.P.D. 176°48′.

	7.33 s	
Apl. 14	37·13	...
14	SP37·80	...
22	SP38·46	...
23	37·46	...
Sept. 13	SP37·38	...
21	SP35·95	...
28	SP37·13	...
30	SP37·32	7·0

d^1 Puppis.

	7.34 s	
Mar. 23	39·86	5·0
April 4	39·80	...

d^3 Puppis.

	7.34 s	
Mar. 7	59·96	6·0
22	59·93	6·0
23	59·95	6·5

β Geminorum.

	7.36 s	
Mar. 9	59·41	...
13	59·38	...
Apl. 21	59·32	...
23	59·31	...

3 Puppis.

	h. m. 7.38 s	Mag.
Mar. 22	21·00	5·0
23	20·96	5·0
April 4	20·84	...

w Puppis.

	7.39 s	
Mar. 7	4·07	5·5
11	4·15	...
Apl. 25	4·05	...

Puppis. B.A.C. 2575.

	7.39 s	
Mar. 23	43·59	6·5

c Puppis.

	7.40 s	
Mar. 23	24·65	4·5
April 4	24·53	...
25	24·56	...

ζ Volantis.

	7.43 s	
Feb. 11	28·47	5·0
Mar. 7	28·25	4·5
11	28·30	...

6 Cancri.

	7.55 s	
Mar. 22	9·62	...
23	9·66	...
April 4	9·51	...
8	9·59	...

15 Argûs.

	h. m. 8. 1 s	Mag.
Feb. 11	45·14	...
Mar. 4	45·15	...
7	45·16	...
13	45·19	...
15	45·23	...
16	45·09	...
22	45·13	...
23	45·26	...
30	45·07	...
April 4	45·13	...
8	45·13	...
25	45·11	...

Velorum. B.A.C. 2754.

	8. 5 s	
Mar. 7	17·88	5·0
11	17·91	5·0
15	18·04	...
22	17·90	5·0

γ Argûs.

	8. 5 s	
Mar. 11	20·47	2·5
13	20·52	2·0
16	20·53	...
23	20·60	2·5

q Puppis.

	8.13 s	
Mar. 7	27·92	5·0
16	27·99	5·0
22	27·97	5·0

Octantis. B.A.C. 2878.

	h. m. 8.17 s	Mag.
Apl. 22	SP45·66	...
23	45·83	7·0
Sept. 15	SP43·50	...
Oct. 12	SP44·65	...

ε Argûs.

	8.19 s	
Mar. 7	43·16	2·0
11	43·29	2·5
16	43·18	...

Puppis. B.A.C. 2846.

	8.22 s	
Mar. 7	7·42	7·0
22	7·38	6·5
23	7·42	6·5

Velorum. B.A.C. 2847.

	8.22 s	
April 8	28·41	6·5
19	28·24	...
21	28·40	...

θ Chamæleontis.

	8.24 s	
Mar. 7	39·48	4·5
11	39·47	...
15	39·22	...
16	39·51	4·5

η Cancri.

	h. m. s	Mag.
	8.24	
Mar. 30	50·39	...
April 4	50·39	...
8	50·40	...
21	50·42	...
23	50·39	...
May 3	50·39	...

Mali. B.A.C. 2898.

	8.29	
Mar. 7	42·70	6·5
16	42·72	...
Apl. 19	42·60	...

Chamæleontis. B.A.C. 2928.

	8.32	
Apl. 22	SP15·41	...
23	15·26	6·0
May 2	SP15·10	5·0
3	15·31	5·5

Velorum. B.A.C. 2956.

	8.36	
Mar. 23	46·49	6·0
Apl. 4	46·35	6·0
8	46·46	6·0
11	46·50	6·0
12	46·58	6·0

θ Volantis.

	8.38	
Mar. 7	33·88	5·5
11	34·13	...
15	33·93	...

ϵ Hydræ.

	h. m. s	Mag.
	8.39	
Mar. 16	34·31	...
30	34·35	...
April 4	34·33	...
8	34·33	...
11	34·28	...
12	34·27	..
19	34·27	...
21	34·36	...
23	34·35	...
May 19	34·29	...

d Mali.

	8.49	
Mar. 11	41·65	5·0
15	41·69	...
16	41·60	5·5

ι Ursæ Majoris.

	8.49	
Mar. 22	52·99	...
23	52·80	...
April 4	52·88	...
11	52·65	...

Velorum. B.A.C. 3071.

	8.53	
Mar. 22	24·78	6·0
23	24·91	5·5
30	24·99	...

b^1 Carinæ.

	8.53	
Mar. 11	38·63	5·0
16	38·56	6·0
Sept. 30	SP38·58	...

Carinæ. N.P.D. 148°42′.

	h. m. s	Mag.
	8.53	
Mar. 11	43·70	6·5

G Carinæ.

	9. 4	
Mar. 11	45·85	5·0
16	45·74	...
Sept. 30	SP45·77	...

83 Cancri.

	9.11	
Mar. 7	23·15	...
11	23·27	...
13	23·26	...
16	23·22	...
22	23·28	...
23	23·19	...
30	23·19	...
April 4	23·22	...
11	23·16	...
12	23·18	...
19	23·17	...
21	23·26	...
23	23·24	...

h Mali.

	9.15	
April 4	28·39	5·0
8	28·46	...
11	28·37	5·0

ζ Octantis.

	9.15	
Apl. 23	47·74	...
May 2	SP47·01	...
3	47·03	5·5
Sept. 27	SP46·26	...

α Hydræ.

	h. m. s	Mag.
	9.20	
Mar. 7	54·19	...
16	54·23	...
23	54·23	...
30	54·18	...
April 4	54·26	...
11	54·18	...
12	54·25	...
14	54·23	...
19	54·13	...
23	54·27	...
June 1	54·22	...

Velorum. B.A.C. 3234.

	9.21	
Apl. 19	50·19	8·0
21	50·31	9·0
May 3	50·26	8·0

Mali. B.A.C. 3243.

	9.23	
Apl. 11	39·06	6·5
12	39·09	...
14	39·06	...
19	38·98	...

n Carinæ.

	9.23	
April 4	47·15	...
8	47·18	...
Sept. 30	SP47·07	...

Mali. B.A.C. 3248.

	9.23	
Apl. 11	52·38	5·0
12	52·43	...
14	52·38	...
19	52·33	...

ψ Argûs.

	h. m. 9.25 s	Mag.
Apl. 23	20·83	3·5
June 1	20·79	...
3	20·70	...

m Carinæ.

	9.35 s	
April 4	34·94	4·5
8	35·02	...
11	35·01	3·5
12	35·05	...

ϵ Leonis.

	9.38 s	
Mar. 16	7·55	...
Apl. 19	7·55	...
May 3	7·51	...
30	7·52	...
June 1	7·48	...
3	7·56	...

Velorum. B.A.C. 3335.

	9.38 s	
April 4	37·40	6·0
8	37·46	...
12	37·55	...

υ Argûs.

	9.43 s	
April 4	42·00	4·0
8	42·09	3·0
12	42·09	4·0

Antliæ. B.A.C. 3367.

	h. m. 9.44 s	Mag.
Apl. 11	5·89	6·5
14	5·96	6·0
19	5·84	6·0
21	5·95	...

Antliæ. Brisbane 2687.

	9.44 s	
Apl. 14	46·00	7·0

Antliæ. B.A.C. 3385.

	9.46 s	
April 4	52·74	...
12	52·73	...
19	52·70	...
21	52·82	...

π Leonis.

	9.53 s	
Mar. 16	1·43	...
April 4	1·47	...
11	1·48	...
14	1·45	...
19	1·54	...
21	1·46	...
May 2	1·46	...
3	1·48	...
30	1·41	...
June 1	1·49	...
2	1·40	...
3	1·40	...

α Leonis.

	h. m. 10. 1 s	Mag.
Apl. 14	7·55	...
25	7·77	...
29	7·55	...
May 2	7·54	...
3	7·60	...
6	7·55	...
30	7·55	...
June 2	7·62	...
3	7·54	...

Velorum. B.A.C. 3462.

	10. 1 s	
Apl. 11	42·11	7·0
19	41·99	...
21	41·98	7·0

Hydræ. B.A.C. 3489.

	10. 7 s	
Apl. 11	4·21	6·0
14	4·21	...
21	4·24	6·5

q Velorum.

	10. 9 s	
Apl. 19	1·81	4·5
21	1·88	4·5
25	1·85	4·0

ω Argûs.

	10.10 s	
Apl. 11	30·01	3·5
May 3	30·01	3·0
6	30·02	3·0

Octantis[1]. B.A.C. 3524.

	h. m. 10.11 s	Mag.
May 2	42·80	9·0

Octantis[2]. B.A.C. 3524.

	10.11 s	
May 2	44·89	8·0

γ^1 Leonis.

	10.12 s	
Apl. 14	28·23	...
25	28·26	...
29	28·21	...
June 2	28·14	...
3	28·18	...

α Antliæ.

	10.20 s	
May 2	55·83	4·5
3	55·84	5·0
6	55·87	5·0

ρ Leonis.

	10.25 s	
Apl. 11	38·88	...
14	38·86	...
19	38·95	...
21	38·85	...
May 2	38·79	...
6	38·82	...
10	38·92	...
12	38·76	...
June 3	38·86	...

Chamæleontis. B.A.C. 3654.

	h. m. s	Mag.
	10.32	
May 2	53·30	6·0
3	53·39	6·5
6	53·32	6·0

θ Argûs.

	10.38 s	
May 2	6·64	3·5
3	6·71	3·0
6	6·64	3·0

η Argûs.

	10.39 s	
May 6	47·40	4·5
19	47·47	4·5
June 3	47·40	...

l Leonis.

	10.42 s	
Apl. 11	6·40	...
29	6·46	...
May 10	6·37	...
12	6·33	...
19	6·30	...
June 3	6·28	...

δ¹ Chamæleontis.

	10.43 s	
May 2	56·24	5·5
3	56·26	6·0
6	55·89	6·0

Chamæleontis. B.A.C. 3756.

	10.50 s	
May 2	12·64	6·5
3	12·66	6·5
6	12·34	6·0

χ Leonis.

	h. m. s	Mag.
	10.57	
Apl. 29	59·97	...
May 2	60·05	...
3	59·99	...
6	59·98	...
10	59·97	...
12	59·98	...
20	59·94	...
June 3	60·05	...
10	59.97	...

η Octantis.

	11. 0 s	
June 1	SP 9·94	...
3	9·96	...

δ Leonis.

	11. 6 s	
Apl. 12	52·27	...
29	52·27	...
June 10	52·28	...

δ Hydræ et Crateris.

	11.12 s	
Apl. 29	32·57	...
May 2	32·53	...
3	32·58	...
6	32·58	...
10	32·55	...
12	32·57	...
19	32·57	...
20	32·55	...
30	32·56	...
June 3	32·54	...
10	32·53	...
20	32·58	...
21	32·56	...

Chamæleontis. B.A.C. 3889.

	h. m. s	Mag.
	11.18	
May 2	46·92	6·0
3	46·92	6·0
6	46·95	6·0

Octantis. Lacaille 4784.

	11.23 s	
May 3	21·87	7·5
6	21·52	8·0
30	21·89	...
June 1	SP22·04	...
18	21·45	...
21	21·45	...

λ Centauri.

	11.29 s	
May 10	31·32	2·5
19	31·39	3·0
30	31·53	3·5

v Leonis.

	11.29 s	
May 2	59·12	...
6	59·09	...
12	59·17	...
20	59·11	...
June 21	59·06	...
22	59·09	...

β Leonis.

	11.42 s	
May 2	7·20	...
6	7·18	...
10	7·14	...
12	7·26	...

β Leonis. *(continued).*

	h. m. s	Mag.
	11.42	
May 19	7·20	...
20	7·20	...
23	7·27	...
30	7·20	...
June 18	7·17	...
21	7·23	...
22	7·22	...
29	7·17	...

Octantis. B.A.C. 4058.

	11.55 s	
June 13	38·23	...
14	38·31	...
14	SP38·03	...
16	38·16	...
18	38·11	...
19	38·26	...
20	38·50	...
20	SP38·66	...
21	38·72	...
29	38·28	...
30	38·43	...
30	SP38·49	...

η Crucis.

	11.59 s	
May 10	48·60	3·5
19	48·71	4·5
23	48·58	4·0

ϵ Corvi.

	12. 3 s	
May 2	8·11	...
6	8·11	...
10	8·04	...
12	8·06	...

ε Corvi. *(continued).*

	h. m. 12. 3 s	Mag.
May 19	8·13	...
23	8·04	...
29	8·07	...
30	8·17	...
June 1	8·14	...
2	8·11	...
3	8·10	...
13	8·01	...
14	8·01	...
16	8·02	...
18	7·95	...
22	8·03	...
29	8·02	...
July 5	8·06	...

β Chamæleontis.

	12.10 s	
May 29	25·96	...
30	26·86	...
June 1	SP26·54	...
2	26·68	...
3	26·54	...
3	SP27·13	...
13	26·51	...
14	26·54	...
14	SP26·43	...
16	26·47	...
18	26·66	...
21	26·48	...
30	26·21	...
July 5	25·95	...
Nov. 15	SP26·32	...
16	SP26·33	...
18	SP26·32	...
29	SP26·45	...
29	26·61	...
Dec. 5	SP26·37	...
5	26·63	...
7	SP26·15	...

η Virginis.

	h. m. 12.12 s	Mag.
May 6	56·83	...
19	56·96	...
23	56·88	...
29	56·90	...
June 3	56·84	...
13	56·81	...
14	56·85	...
16	56·87	...
18	56·88	...
30	56·81	...
July 5	56·89	...

α^1 Crucis.

	12.19 s	
June 30	3·53	...
30	SP 3·58	...
Nov. 21	SP 3·42	...

α^2 Crucis.

	12.19 s	
June 30	4·30	...
30	SP 4·33	...
Nov. 16	SP 4·29	...
21	SP 4·09	...

σ Centauri.

	12.20 s		
May 10	41·97	3·5	
19	42·02	4·0	
June 10	41·97	...	

γ Muscæ.

	12.24 s		
May 10	23·16	3·5	
19	23·51	4·0	
23	23·12	...	

β Corvi.

	h. m. 12.27 s	Mag.
May 23	14·82	...
29	14·90	...
30	14·95	...
June 3	14·94	...
10	14·88	...
13	14·91	...
14	14·91	...
16	14·85	...
18	14·90	...
21	14·93	...
30	14·86	...
July 5	14·90	...
Dec. 5	14·86	...
9	14·87	...

Hydræ. B.A.C. 4253.

	12.30 s		
May 10	29·92	4·5	
12	29·89	4·5	
19	29·91	5·5	

γ^1 Virginis.

	12.34 s		
May 10	46·16	...	
19	46·13	...	
23	46·09	...	
29	46·06	...	
June 8	46·16	...	
10	46·12	...	
13	46·10	...	
14	46·21	...	
16	46·11	...	
18	46·14	...	
21	46·07	...	
July 5	46·20	...	

β Muscæ.

	h. m. 12.37 s	Mag.
May 10	58·49	3·0
12	58·41	3·0
19	58·76	3·5

ι Octantis.

	12.41 s	
June 16	2·50	...
20	2·65	...
27	2·41	...
28	SP 2·61	..
30	2·29	...
30	SP 2·85	...
Dec. 4	SP 2·75	...
5	SP 2·43	...
9	SP 2·36	...
12	SP 2·61	...

12 Canum Venaticorum.

	12.49 s	
May 19	39·54	...
29	39·63	...
30	39·53	...
June 13	39·73	...
14	39·63	...
16	39·66	...
20	39·52	...
27	39·62	...
July 5	39·63	...

δ Muscæ.

	12.52 s		
May 12	57·98	4·5	
19	58·39	4·0	
23	58·09	...	

θ Virginis.

	h. m. s	Mag.
	13. 2	
May 23	54·60	...
June 6	54·69	...
8	54·56	...
13	54·58	...
14	54·62	...
18	54·62	...
20	54·65	...
22	54·60	...
27	54·62	...
July 22	54·62	...

η Muscæ.

	h. m. s	Mag.
	13. 6	
May 12	4·32	5·0
30	4·70	...
June 8	4·21	...

Octantis. B.A.C. 4460.

	h. m. s	Mag.
	13.14	
May 12	41·58	7·0
23	41·44	...
30	43·56	7·0
June 16	42·60	...
18	42·11	...
27	42·72	7·0
30	43·07	...
July 1	42·62	...

α Virginis.

	h. m. s	Mag.
	13.18	
June 8	1·86	...
13	1·88	...
20	1·89	...
22	1·84	...
July 22	1·87	...

κ Octantis.

	h. m. s	Mag.
	13.19	
June 14	34·26	...
16	33·95	...
18	33·91	...
27	34·20	5·5
30	34·26	...
30	SP34·05	...
July 1	33·76	...
13	33·95	5·0
13	SP33·58	...
15	34·11	...

Centauri. B.A.C. 4507.

	h. m. s	Mag.
	13.23	
May 12	10·15	5·5
23	10·13	4·0
30	10·30	...
June 8	10·05	...

ζ Virginis.

	h. m. s	Mag.
	13.27	
June 6	45·83	...
8	45·87	...
14	45·95	...
16	45·88	...
22	45·92	...
27	45·90	...
30	45·84	...
July 13	45·90	...
22	45·86	...

k Centauri.

	h. m. s	Mag.
	13.43	
June 8	59·10	...
27	59·18	5·5
30	59·09	...

k^2 Centauri.

	h. m. s	Mag.
	13.43	
June 27	59·80	7·0

η Boötis.

	h. m. s	Mag.
	13.48	
May 20	12·52	...
June 8	12·55	...
27	12·52	...
30	12·42	...
July 22	12·45	...

θ Apodis.

	h. m. s	Mag.
	13.52	
June 29	11·29	...
30	11·41	6·5
July 5	10·89	...

β Centauri.

	h. m. s	Mag.
	13.54	
June 16	15·40	...

τ Virginis.

	h. m. s	Mag.
	13.54	
May 20	43·64	...
June 6	43·55	...
10	43·62	...
27	43·64	...
29	43·60	...
July 22	43·56	...

η Apodis.

	h. m. s	Mag.
	14. 1	
June 29	22·47	4·5
30	22·76	...
July 5	21·94	...

δ Octantis.

	h. m. s	Mag.
	14. 5	
July 11	31·42	6·0
13	31·31	5·0
13	SP31·18	...
15	31·29	5·0
15	SP31·14	...
27	SP31·74	...
28	31·28	...
Aug. 3	31·19	...
3	SP31·31	5·0

ε Apodis.

	h. m. s	Mag.
	14. 6	
June 29	7·56	5·0
30	8·05	5·0
July 5	7·26	...

α Boötis.

	h. m. s	Mag.
	14. 9	
June 6	27·48	...
27	27·45	...
July 13	27·47	...
15	27·48	...
30	27·40	...

Apodis. B.A.C. 4754.

	h. m. s	Mag.
	14.13	
June 27	52·83	...
29	52·79	6·0
30	52·96	5·5

Octantis. N.P.D. 175°48′.

	h. m. s	Mag.
	14.16	
July 27	SP28·57	7·0
28	27·55	...

Octantis. N.P.D. 175°48′ *(continued).*

	h. m. 14.16 s	Mag.
July 29	SP26·76	...
30	26·76	7·5
Aug. 3	27·62	...
3	SP27·63	7·5

Libræ. B.A.C. 4767.

	14.17 s	
June 27	3·43	6·5
29	3·42	6·5
30	3·37	6·5

Octantis. B.A.C. 4790.

	14.25 s	
July 11	9·11	6·5
13	8·98	6·5
13	SP 9·91	...
15	9·19	6·5
26	10·28	6·5
27	SP10·91	...
28	9·62	...
30	9·13	6·5
Aug. 3	SP 9·25	...
3	8·29	6·5

ρ Boötis.

	14.25 s	
June 6	58·11	...
29	57·98	...
July 5	58·04	...

α^2 Centauri.

	14.30 s	
June 29	23·09	...
Dec. 4	23·02	...

α Apodis.

	h. m. 14.31 s	Mag.
July 13	8·17	...
13	SP 7·89	...
15	8·06	5·0
26	8·06	...
27	SP 7·66	...
28	7·34	...
30	8·05	4·5
Aug. 3	7·83	4·5
3	SP 8·11	4·5

Centauri. B.A.C. 4842.

	14.33 s	
June 29	31·40	6·5
30	31·38	...
July 5	31·29	...

ϵ Boötis.

	14.39 s	
July 13	2·80	...
15	2·83	...

Octantis. B.A.C. 4883.

	14.41 s	
July 26	28·39	...
27	SP28·32	...
28	28·28	...
30	28·47	6·0
Aug. 3	28·22	6·5
3	SP28·47	6·0

α^1 Libræ.

	14.43 s	
June 29	10·16	...
30	10·15	...

α^1 Libræ. *(continued).*

	h. m. 14.43 s	Mag.
July 11	10·02	...
13	10·15	...
15	10·10	...
28	10·07	...

α^2 Libræ.

	14.43 s	
June 29	21·55	...
30	21·59	...
July 11	21·56	...
13	21·57	...
15	21·54	...
28	21·44	...
Aug. 5	21·56	...
18	21·45	...

Lupi. B.A.C. 4901.

	14.44 s	
June 29	19·67	5·5
30	19·80	6·0
July 5	19·66	...

Trianguli Australis. B.A.C. 4919.

	14.49 s	
June 29	10·56	7·0
30	10·65	7·0
July 5	10·53	...

ψ Boötis.

	14.58 s	
June 29	36·96	...
July 5	37·09	...
11	37·03	...
13	37·01	...
15	37·04	...
30	37·07	...

Lupi. B.A.C. 4996.

	h. m. 15. 4 s	Mag.
June 29	33·65	6·5
30	33·67	6·5
July 11	33·63	7·0

β Libræ.

	15. 9 s	
June 29	41·51	...
30	41·52	...
July 5	41·47	...
11	41·44	...
13	41·50	...
15	41·48	...
22	41·47	...
28	41·47	...
30	41·49	...
Aug. 2	41·47	...
7	41·48	...
8	41·44	...
18	41·45	..
19	41·45	...

ρ Octantis.

	15.12 s	
July 25	27·87	...
26	SP27·66	...
28	28·09	...
29	SP28·01	...
30	27·86	...
Aug. 2	27·34	5·5
3	28·01	...
3	SP27·79	5·5
7	27·92	5·5
7	SP27·84	...
8	27·67	...
19	27·83	...

ϕ^1 Lupi.

	h. m. s	Mag.
	15.13	
July 11	11·24	4·5
13	11·15	4·5
15	11·18	4·5

ϵ Trianguli Austr.

	15.24 s	
July 5	18·84	...
11	19·09	...
13	18·96	5·0

α Coronæ Borealis.

	15.28 s	
July 5	55·69	...
11	55·68	...
Aug. 2	55·74	...
7	55·72	...

Lupi. B.A.C. 5171.

	15.33 s	
July 5	48·40	...
11	48·51	6·0
13	48·45	5·0

α Serpentis.

	15.37 s	
July 11	34·27	...
13	34·23	...
15	34·21	...
30	34·19	...
Aug. 2	34·16	...
7	34·21	...
19	34·23	...

κ Trianguli Austr.

	h. m. s	Mag.
	15.42	
July 13	6·06	...
15	6·03	5·5
22	5·92	5·5

χ Lupi.

	15.42 s	
July 28	19·36	...
Aug. 2	19·41	5·0
3	19·44	...

ρ Scorpii.

	15.48 s	
July 22	29·55	4·5
25	29·55	...
Aug. 2	29·55	5·0

π Scorpii.

	15.50 s	
Aug. 2	37·78	4·5
3	37·77	...
7	37·74	3·5

η Lupi.

	15.51 s	
July 20	7·09	4·0
22	7·00	...
25	7·02	5·0

δ Scorpii.

	15.52 s	
July 28	17·72	...
Aug. 2	17·74	3·0
3	17·83	...

β^1 Scorpii.

	h. m. s	Mag.
	15.57	
July 11	32·00	...
22	31·99	...
28	31·95	...
Aug. 2	31·94	...
7	31·99	...
8	31·95	...
19	31·87	...
25	31·95	...

δ^1 Apodis.

	16. 0 s	
Aug. 18	8·49	...
18	SP 8·81	...
19	9·00	5·5
21	8·82	...
23	9·02	...
23	SP 8·77	...
24	8·78	...
24	SP 8·52	...
25	8·79	...
25	SP 8·95	...
26	SP 8·77	...
27	9·16	...

c^1 Scorpii.

	16. 3 s	
July 25	52·06	...
28	52·06	...
Aug. 2	52·00	7·0

ν Scorpii.

	16. 4 s	
July 20	5·60	...
Aug. 8	5·64	...
18	5·61	5·0

δ Ophiuchi.

	h. m. s	Mag.
	16. 7	
July 7	13·19	...
Aug. 5	13·25	...
8	13·20	...
25	13·10	...
Sept. 1	13·18	...

Octantis. B.A.C. 5412.

	16.11 s	
July 20	0·97	...
Aug. 5	1·26	...
18	1·12	...
18	SP 1·42	...
19	2·10	...
21	1·81	...
23	1·76	...
23	SP 1·65	...
24	1·68	...
24	SP 1·81	...
25	1·40	...
25	SP 1·74	...
26	SP 2·06	...
27	2·02	...

γ Apodis.

	16.12 s	
July 25	42·37	5·0
28	42·48	4·0
Aug. 2	42·24	...

α Scorpii.

	16.21 s	
July 7	4·32	...
28	4·35	...
Aug. 2	4·31	...
5	4·22	...
8	4·28	...
18	4·29	...
25	4·39	...

α Scorpii. *(continued).*

	h. m. s	Mag.
	16.21	
Sept. 1	4·35	...
3	4·33	...

β Apodis.

	16.23 s	
July 25	44·62	...
28	44·74	5·0
Aug. 2	44·40	5·0

τ Scorpii.

	16.27 s	
July 20	25·10	...
25	25·15	4·5
26	25·17	4·0
Aug. 2	25·15	3·5

α Trianguli Austr.

	16.34 s	
Jan. 14	SP17·87	...
17	SP17·91	...
17	17·81	...
18	SP17·77	...
25	SP17·82	...
Feb. 1	SP17·75	...
3	SP17·56	...
Mar. 11	SP17·91	...
July 26	17·79	...
Aug. 8	17·64	...

ζ Herculis.

	16.36 s	
July 7	9·60	...
28	9·59	...
Aug. 5	9·51	...
25	9·50	...

Trianguli Australis. B.A.C. 5654.

	h. m. s	Mag.
	16.44	
Aug. 19	59·49	6·5
24	59·48	6·0
25	59·69	6·5

κ Ophiuchi.

	16.51 s	
July 7	13·89	...
28	13·89	...
Aug. 2	13·89	...
5	13·91	...
8	13·85	...
19	13·85	...
Sept. 1	13·87	...
3	13·88	...

Octantis. Brisbane 5928.

	16.58 s	
Sept. 1	34·70	6·5
3	SP34·40	6·5
3	34·42	...
5	34·60	...
6	34·29	...
6	SP34·29	...
7	34·54	...
8	34·44	...

Apodis. B.A.C. 5794.

	17. 6 s	
Aug. 5	6·20	...
19	6·39	...
24	6·20	...
25	5·92	6·5
Sept. 3	6·33	...
3	SP 6·33	...
5	6·41	...

Apodis. B.A.C. 5794. *(continued).*

	h. m. s	Mag.
	17. 6	
Sept. 6	6·15	...
6	SP 6·10	...
7	6·12	...
8	6·22	...
10	6·22	...
10	SP 6·53	...

ι Apodis.

	17. 6 s	
Aug. 19	57·11	...
25	56·79	6·0
27	56·95	6·0
Sept. 1	57·00	5·5

α Herculis.

	17. 8 s	
July 7	26·74	...
Aug. 5	26·80	...
15	26·73	...
Sept. 3	26·71	...
6	26·79	...
8	26·77	...

Ophiuchi. B.A.C. 5846.

	17.13 s	
Aug. 5	21·24	...
18	21·18	...
25	21·27	6·5

θ Ophiuchi.

	17.13 s	
July 7	39·52	...
Aug. 5	39·52	...
8	39·54	...

θ Ophiuchi. *(continued).*

	h. m. s	Mag.
	17.13	
Aug. 15	39·50	...
19	39·59	...
23	39·47	...
25	39·61	...
Sept. 1	39·52	...
3	39·56	...
21	39·60	...

b Ophiuchi.

	17.18 s	
Aug. 5	3·97	...
18	3·98	4·5
25	3·99	5·0

d' Ophiuchi.

	17.18 s	
Aug. 23	40·27	...
27	40·34	5·0
Sept. 1	40·33	5·0

α Ophiuchi.

	17.28 s	
Aug. 18	37·29	...
23	37·27	...
Sept. 21	37·27	...

η Pavonis.

	17.32 s	
Aug. 5	23·51	...
18	23·52	...
19	23·45	...

Octantis. B.A.C. 5936.

	h. m. 17.34 s	Mag.
Aug. 23	43·25	...
24	43·42	5·5
25	43·00	5·5
27	44·21	5·5
Sept. 1	44·04	5·5
3	43·23	5·5
5	43·03	6·0
6	43·24	5·5
8	43·33	5·5
13	43·70	...
19	43·53	...
21	41·77	...

μ Herculis.

	17.41 s	
Aug. 23	8·06	...
24	8·11	...
25	8·17	...
31	8·06	...
Sept. 3	8·07	...
5	8·11	...
6	8·20	...
8	8·11	...
21	8·06	...

σ Octantis.

	17.55 s	
Aug. 23	26·78	...
24	25·64	...
25	24·14	5·5
27	28·08	5·5
Sept. 1	25·54	5·5
5	24·63	...
8	23·55	5·5

π Pavonis.

	h. m. 17.55 s	Mag.
Feb. 12	SP29·34	6·0
15	SP29·34	5·0
Aug. 5	29·30	5·0
31	29·11	...

γ^1 Sagittarii.

	17.56 s	
Sept. 15	20·03	...
19	19·90	...
21	19·96	...

Octantis. B.A.C. 6156.

	18. 4 s	
Sept. 1	46·93	6·0
8	46·62	6·5

Octantis. B.A.C. 6164.

	18. 5 s	
Feb. 11	SP18·18	6·0
12	SP18·17	6·5
15	SP18·09	6·5

μ^1 Sagittarii.

	18. 5 s	
Aug. 5	37·75	..
15	37·76	...
18	37·88	...
23	37·78	...
24	37·75	...
26	37·83	...
31	37·82	...
Sept. 5	37·86	...
15	37·74	...
21	37·77	...

Octantis. B.A.C. 6205.

	h. m. 18.14 s	Mag.
Sept. 5	14·72	6·5
7	14·70	...
15	15·11	...

Pavonis. B.A.C. 6242.

	18.17 s	
Feb. 12	SP40·06	7·0
15	SP39·93	8·0
Sept. 5	39·81	7·0
7	39·71	...
19	39·85	...
21	39·76	7·0

λ Sagittarii.

	18.19 s	
Aug. 5	34·58	...
24	34·59	2·5
Sept. 1	34·55	3·0

Octantis. Lacaille 7612.

	18.26 s	
Aug. 24	55·01	...
25	55·53	7·0
Sept. 1	55·04	7·5
7	54·97	7·5
8	55·08	8·0

ζ Pavonis.

	18.27 s	
Feb. 11	SP 7·97	4·0
12	SP 7·89	4·0
15	SP 7·91	4·0

α Lyræ.

	h. m. 18.32 s	Mag.
Aug. 24	19·88	...
26	19·89	...
Sept. 1	19·94	...
5	19·81	...

θ Pavonis.

	18.35 s	
Feb. 11	SP15·10	...
12	SP14·95	6·5
15	SP14·95	6·5

β Lyræ.

	18.45 s	
Aug. 5	3·37	...
24	3·44	...
26	3·50	...
Sept. 5	3·49	...
9	3·48	...

Pavonis. B.A.C. 6494.

	18.55 s	
Feb. 12	SP26·23	...
15	SP26·23	6·0
Aug. 31	25·98	5·5

ζ Aquilæ.

	18.59 s	
Aug. 23	9·54	...
24	9·48	...
26	9·45	...
31	9·48	...
Sept. 1	9·50	...
9	9·49	...
13	9·51	....

τ Pavonis.

	h. m. 19. 1 s	Mag.
Feb. 12	sp51·24	7·0
15	sp51·15	6·5
Aug. 26	50·99	...

Octantis. Brisbane 6598.

	19. 8 s	
Aug. 23	6·05	...
24	6·02	...
Sept. 1	5·93	7·0
8	5·80	6·5
9	5·93	..
13	5·94	...

ω Aquilæ.

	19.11 s	
July 19	25·87	...
Aug. 24	25·92	...
26	25·89	...
Sept. 1	25·89	...
3	25·93	...
5	25·85	...
8	25·89	...
9	25·87	...
13	25·92	...

δ Aquilæ.

	19.18 s	
July 19	38·39	...
Aug. 23	38·43	...
24	38·50	...
Sept. 5	38·39	...
15	38·32	...
21	38·39	...

h^2 Sagittarii.

	h. m. 19.28 s	Mag.
July 19	25·64	...
Aug. 5	25·74	...
23	25·62	...
31	25·76	...
Sept. 3	25·70	...
5	25·68	...
8	25·61	...
9	25·69	...
13	25·68	...
15	25·66	...
21	25·62	...
28	25·67	...
30	25·67	...

Octantis. B.A.C. 6708.

	19.30 s	
Apl. 14	sp45·76	...
14	46·01	...
22	45·92	...
23	sp45·68	...
July 19	45·83	...
Aug. 31	45·92	...
Sept. 3	46·20	...
8	45·02	6·5
9	45·68	...
15	45·74	...
25	45·34	...
28	45·76	...
30	45·63	...

e^2 Sagittarii.

	19.34 s	
Aug. 23	44·34	...
29	44·29	...
Sept. 5	44·33	...
9	44·26	...

γ Aquilæ.

	h. m. 19.39 s	Mag.
July 19	47·52	...
Aug. 5	47·58	...
31	47·57	...
Sept. 5	47·56	...
8	47·61	...
9	47·57	...
15	47·53	...
28	47·48	...
30	47·57	...
Oct. 19	47·58	...

α Aquilæ.

	19.44 s	
July 19	8·77	...
Aug. 31	8·67	...
Sept. 8	8·79	...
9	8·74	...
13	8·81	...
28	8·71	...
Oct. 19	8·73	...

ω Sagittarii.

	19.47 s	
Sept. 5	30·30	4·5
9	30·31	...
13	30·30	...
15	30·25	...

β Aquilæ.

	19.48 s	
July 19	37·89	...
Sept. 28	37·86	...
30	37·86	...
Oct. 19	37·94	...

δ Pavonis.

	h. m. 19.55 s	Mag.
Mar. 7	sp21·29	4·0
11	sp21·29	4·0
13	sp21·28	5·0
16	sp21·11	...

Octantis. B.A.C. 6859.

	19.55 s	
Apl. 14	sp26·87	7·0
22	26·86	6·0
23	sp26·53	...
25	sp27·15	...
Sept. 18	26·60	...
20	26·70	...
28	26·84	...

Sagittarii. B.A.C. 6889.

	19.56 s	
Sept. 21	57·68	7·0

Octantis. B.A.C. 6900.

	20. 0 s	
Apl. 22	34·99	7·0
23	sp34·97	7·0

Sagittarii. B.A.C. 6922.

	20. 2 s	
Sept. 21	15·46	6·0

Sagittarii. B.A.C. 6947.

	h. m. s	Mag.
Sept. 21	20. 6 48·09	6·0

α^1 Capricorni.

Sept. 15	20. 10 s 6·33	...

Octantis. B.A.C. 6955.

Apl. 22	20. 10 s 24·69	6·0
23	SP24·21	...

α^2 Capricorni.

Sept. 15	20. 10 s 30·38	...
27	30·34	...
28	30·41	...
Oct. 12	30·39	...

α Pavonis.

Mar. 23	20. 14 s SP52·10	...
23	52·20	...
Sept. 20	51·97	...
28	52·02	...
30	52·04	...
Oct. 12	52·10	...

Sagittarii. B.A.C. 7025.

Sept. 21	20. 18 s 3·84	6·5

ρ Capricorni.

	h. m. s	Mag.
Sept. 27	20. 21 s 6·03	...
28	6·01	...
30	5·93	...
Oct. 12	6·02	...

Capricorni. B.A.C. 7077.

Sept. 21	20. 24 s 46·19	6·5

β Pavonis.

Mar. 7	20. 32 s SP39·90	3·0
11	SP39·88	3·0
13	SP39·72	3·5
13	39·73	4·5
16	SP39·67	...

σ Pavonis.

May 7	20. 36 s SP22·74	6·0
13	SP22·65	5·5
16	SP22·52	...
Sept. 28	22·20	6·0

α Cygni.

Sept. 27	20. 36 s 47·56	...
30	47·67	...
Oct. 12	47·78	...

β Indi.

Mar. 7	20. 44 s SP 9·59	4·0
22	SP 9·49	...
23	SP 9·46	4·0

Octantis. B.A.C. 7020.

	h. m. s	Mag.
May 2	20. 44 s 57·99	6·0
3	SP56·77	6·0

α Octantis.

Mar. 13	20. 48 s SP 6·76	4·5
Apl. 19	SP 6·97	5·0
21	SP 6·82	...
22	6·97	...

32 Vulpeculæ.

Oct. 12	20. 48 s 45·74	...

o Pavonis.

Mar. 7	21. 0 s SP31·79	5·5
11	SP31·70	4·5
15	SP31·94	...
16	SP31·49	...

61^1 Cygni.

Sept. 30	21. 0 s 48·10	...

ζ Cygni.

Sept. 27	21. 7 s 8·82	...
30	8·84	...
Oct. 12	8·83	...

Octantis. B.A.C. 7384.

	h. m. s	Mag.
May 2	21. 11 s 19·26	...
3	SP19·54	6·5

ι Capricorni.

Oct. 12	21. 14 s 40·22	...
17	40·16	4·0

γ Pavonis.

Sept. 30	21. 15 s 9·36	4·0

β Aquarii.

Sept. 27	21. 24 s 23·87	...
Oct. 12	23·70	...
17	23·84	...
21	23·80	...
25	23·81	...

λ^1 Octantis.

April 4	21. 29 s SP40·30	6·0
14	SP40·19	...
May 3	SP40·40	6·5

λ^2 Octantis.

April 4	21. 29 s SP41·89	9·0
May 3	SP41·81	8·5

γ Capricorni.

	h. m. 21.32 s	Mag.
Sept. 30	33·10	4·5
Oct. 12	33·11	...
17	33·06	...

ϵ Pegasi.

	21.37 s	
Sept. 30	30·30	...
Oct. 12	30·38	...
17	30·32	...
21	30·38	...
25	30·34	...
28	30·29	...

o Indi.

	21.39 s	
Apl. 11	SP13·18	...
14	SP13·29	...
19	SP13·46	...

16 Pegasi.

	21.46 s	
Oct. 17	52·47	...
25	52·44	...

κ^1 Indi.

	21.48 s	
April 4	SP51·58	...
11	SP51·45	...
Oct. 17	51·38	6·0

Octantis. Lacaille 8897.

	21.49 s	
May 30	SP20·19	...

α Aquarii.

	h. m. 21.58 s	Mag.
Oct. 17	47·75	...
19	47·82	...
21	47·81	...
25	47·89	...

α Tucanæ.

	22. 9 s	
May 3	SP 9·31	4·0
Oct. 17	9·10	3·5
19	9·20	3·5

θ Aquarii.

	22. 9 s	
Oct. 16	39·32	...
21	39·29	...

δ Tucanæ.

	22.17 s	
Apl. 11	SP37·18	...
21	SP37·47	...
Oct. 17	37·34	5·5

ν Tucanæ.

	22.23 s	
May 3	SP46·44	6·0
6	SP46·57	...
Oct. 17	46·41	5·0

η Aquarii.

	22.28 s	
Oct. 17	22·03	...
19	21·99	...
21	22·03	...
25	21·97	...

β Octantis.

	h. m. 22.31 s	Mag.
June 3	SP56·08	...

ζ Pegasi.

	22.34 s	
Oct. 17	40·76	...
19	40·69	...
21	40·69	...

ρ Indi.

	22.45 s	
May 3	SP 8·66	6·5
Oct. 17	8·71	6·5
19	8·55	7·0
21	8·59	...

α Piscis Austr.

	22.50 s	
April 7	7·75	...
Oct. 16	7·68	...
17	7·67	...
19	7·65	...
21	7·60	...
Nov. 13	7·75	...
Dec. 12	7·68	...
21	7·69	...

α Pegasi.

	22.57 s	
Oct. 16	59·25	...
28	59·16	...
Nov. 13	59·21	...
Dec. 12	59·27	...

Tucanæ. B.A.C. 8040.

	h. m. 22.59 s	Mag.
May 2	SP 3·60	5·0
3	SP 3·54	6·0

τ Octantis.

	23. 5 s	
May 2	SP56·97	5·5
3	SP56·44	6·0
30	SP56·31	...
30	56·38	...
June 1	55·82	...
3	SP56·13	...
21	SP56·26	...
Oct. 9	56·70	...

γ Tucanæ.

	23. 9 s	
Nov. 16	28·19	4·0
18	28·15	...

γ Piscium.

	23.10 s	
Oct. 9	6·86	...
16	6·84	...
Nov. 13	6·87	...
15	6·82	...

κ Piscium.

	23.19 s	
June 1	57·61	...
13	57·65	...
Oct. 9	57·60	...
16	57·65	...
Nov. 13	57·59	...
15	57·62	...
16	57·62	...
18	57·59	...
21	57·65	...

ι Piscium.

	h. m. 23.32 s	Mag.
June 1	57·32	...
13	57·28	...
Oct. 9	57·33	...
12	57·29	...
16	57·32	...
18	57·33	...
21	57·29	...

δ Sculptoris.

	23.41 s	
June 1	50·19	...
Oct. 9	50·27	...
12	50·16	...
25	50·15	...
28	50·25	...

δ Sculptoris. *(continued).*

	h. m. 23.41 s	Mag.
Nov. 13	50·21	...
16	50·19	...
18	50·19	...
21	50·33	...

γ^1 Octantis.

	23.44 s	
Apl. 29	SP 0·81	...
June 13	0·99	...
14	SP 0·67	...
14	0·69	...
18	SP 0·75	...
19	SP 0·84	...

γ^1 Octantis. *(continued).*

	h. m. 23.44 s	Mag.
June 20	SP 0·35	5·5
21	SP 0·42	...
22	SP 0·35	...
29	SP 0·67	...

γ^2 Octantis.

	23.49 s	
June 13	SP59·28	...
13	59·10	...
14	SP59·50	...
14	59·16	...
16	SP59·65	...

γ^2 Octantis. *(continued).*

	h. m. 23.49 s	Mag.
June 18	SP59·25	...
19	SP59·08	...
20	SP59·06	6·0
20	59·23	...
30	SP58·80	...

ω Piscium.

	23.52 s	
Oct. 9	19·70	...
28	19·66	...
Nov. 15	19·71	...
16	19·79	...
18	19·77	...

MELBOURNE OBSERVATORY.

SEPARATE RESULTS

FOR

MEAN N.P.D. OF STARS

OBSERVED IN THE YEAR

1864.

α Andromedæ.	
	61°39′
Nov. 15	36·41
16	37·13
18	36·07
21	37·37
γ^3 Octantis.	
	172°58
Nov. 21	49·15
γ^3 Octantis, S.P.	
	172°58′
June 21	49·29
30	48·31
γ Pegasi.	
	75°34′
Nov. 15	18·98
21	20·40
o Octantis.	
	179° 7′
Nov. 16	10·19
21	9·68
π Tucanæ, S.P.	
	160°22′
May 10	45·99
19	46·91
23	46·00
β Hydri.	
	168° 1′
June 14	14·12
Oct. 25	14·13

β Hydri, S.P.	
	168° 1′
May 6	12·17
June 13	12·85
14	13·25
16	12·17
18	12·31
12 Ceti.	
	94°42′
Nov. 15	32·20
Tucanæ. B.A.C. 140.	
	162° 0′
Nov. 16	59·47
18	58·89
Tucanæ B.A.C. 140, S.P.	
	162° 0′
May 10	58·62
β Ceti.	
	108°44′
Nov. 1	1·41
λ Hydri.	
	165°39′
Nov. 18	50·90
λ Hydri, S.P.	
	165°39′
May 19	50·79
30	49·67

Octantis. R.A. 0^h 49^m.	
	174°29′
June 28	12·41
ι Tucanæ, S.P.	
	152°30′
May 30	5·22
Octantis. R.A. 1^h 6^m, S.P.	
	174°19′
June 16	2·76
27	2·67
κ Tucanæ, S.P.	
	159°35′
May 12	55·49
23	54·76
30	54·55
η Piscium.	
	75°21′
Nov. 21	21·57
α Eridani, S.P.	
	147°55′
June 16	45·61
July 22	43·20
Hydri. B.A.C. 512, S.P.	
	169°11′
June 30	42·31
July 13	41·69

Octantis. B.A.C. 557.	
	173°39′
July 13	61·09
Octantis. B.A.C. 557, S.P.	
	173°39′
June 16	58·81
30	57·07
July 11	58·58
13	58·96
22	58·93
Octantis. Brisbane 277, S.P.	
	175°27′
June 16	17·71
July 13	18·44
α Hydri, S.P.	
	152°13′
June 30	53·98
July 11	55·14
13	53·12
Octantis. B.A.C. 655, S.P.	
	172° 9′
July 11	30·96
13	31·52
Hydri. B.A.C. 711, S.P.	
	167°15′
June 29	43·29
30	42·98

δ Hydri, S.P.	
	159°16′
June 29	42·82
30	43·07
July 5	42·95

ξ^2 Ceti.	
	82° 9′
Jan. 6	5·32

μ Hydri.	
	169°42′
Aug. 2	7·33
3	5·95

μ Hydri, S.P.	
	169°42′
July 26	7·56
28	5·11
30	6·25

ε Hydri, S.P.	
	158°50′
June 29	60·22
July 5	59·60
11	59·93

α Ceti.	
	86°26′
Jan. 4	44·49
6	44·59

Octantis. R.A. 2^h 59^m.	
	178°58′
Aug. 3	43·11

Octantis. R.A. 2^h 59^m, S.P.	
	178°58′
Aug. 3	45·23

θ Hydri, S.P.	
	162°26′
June 29	1·30
30	0·53
July 15	1·25

δ Arietis.	
	70°47′
Jan. 6	23·41

Mensæ. Lacaille 1236, S.P.	
	174° 1′
Aug. 7	37·19

Octantis. R.A. 3^h 27^m.	
	178°42′
Aug. 3	14·45

Octantis. R.A. 3^h 27^m, S.P.	
	178°42′
Aug. 19	15·33

Hydri. B.A.C. 1108, S.P.	
	167°12′
July 13	51·32
15	52·97
22	50·98

Mensæ. Brisbane 593.	
	168°48′
Aug. 3	18·28

Mensæ. Brisbane 593, S.P.	
	168°48′
Aug. 19	18·34

Mensæ. B.A.C. 1200, S.P.	
	169°42′
Aug. 19	1·01

γ Hydri.	
	164°39′
Aug. 3	16·85
23	18·01

γ Hydri, S.P.	
	164°39′
Aug. 19	16·50

γ^1 Eridani.	
	103°53′
Jan. 4	49·92

o^1 Eridani.	
	97°11′
Jan. 4	38·63
27	40·28

Reticuli. B.A.C. 1297, S.P.	
	154°35′
July 25	38·70
28	41·15
Aug. 2	38·99

η Reticuli.	
	153°42′
Aug. 12	35·29
18	34·24
23	34·21

η Reticuli, S.P.	
	153°42′
Aug. 24	34·21

ε Tauri.	
	71° 7′
Jan. 29	26·19

δ Mensæ, S.P.	
	170°31′
Sept. 1	43·34

α Tauri.	
	73°46′
Jan. 25	1·80
27	1·45
Feb. 9	0·99

Mensæ. B.A.C. 1454, S.P.	
	171°53′
July 25	1·96
28	0·82
Aug. 2	1·10
24	1·02
27	0·99
Sept. 1	1·42

Mensæ. B.A.C. 1481.	
	173°11′
Jan. 12	12·95
18	12·47
Feb. 1	12·45
3	13·99
Aug. 26	12·15

Mensæ.
B.A.C. 1481, S.P.

	173°11′
Aug. 2	11·79
24	11·95
25	11·99
27	12·06
Sept. 1	11·89

ι Aurigæ.

	57° 3′
Feb. 1	10·28
3	9·35

Mensæ.
B.A.C. 1587, S.P.

	165° 8′
Aug. 5	38·68
19	39·07
24	39·72

ε Leporis.

	112°33′
Jan. 12	21·17
14	20·71
25	20·87
27	21·55
Feb. 3	22·40
9	21·37

α Aurigæ.

	44° 8′
Feb. 1	37·48
9	34·78

β^2 Orionis.

	98°21′
Jan. 12	49·83

β Orionis.

	98°21′
Apl. 19	42·51

θ Doradus.

	157°20′
Feb. 17	16·48
22	18·52
26	17·11

Mensæ.
B.A.C. 1675.

	172°38′
Jan. 14	43·59
Sept. 15	44·86

Mensæ.
B.A.C. 1675, S.P.

	172°38′
Aug. 24	43·23
Sept. 5	43·18
6	43·61
8	43·45

β Tauri.

	61°30′
Jan. 12	38·38
25	38·68
27	39·81
Feb. 1	37·81
15	39·40
17	37·10
26	38·32
Mar. 22	40·46

δ Orionis.

	90°24′
Jan. 25	9·46
Feb. 22	9·70
26	9·51
Mar. 22	10·43

α Leporis.

	107°55′
Jan. 12	17·92
Feb. 11	17·91
15	19·05

Mensæ.
Lacaille 2066, S.P.

	174° 0′
Aug. 5	8·60
24	9·85
25	8·97
Sept. 1	10·04
8	9·92

ε Orionis.

	91°17′
Feb. 15	29·85
17	28·92
26	29·18
Mar. 22	31·43

α Columbæ.

	124° 8′
Jan. 14	53·72
18	53·74
25	55·21
29	53·68
Feb. 1	54·88
17	53·59
26	54·49
Mar. 22	55·63

α Orionis.

	82°37′
Feb. 1	16·49
22	15·90
26	17·18

Mensæ.
B.A.C. 1898.

	170°33′
Feb. 11	59·22
12	60·51
15	59·59

γ Columbæ.

	125°17′
Feb. 22	58·65
26	58·99

Mensæ.
B.A.C. 1969.

	169°22′
Feb. 11	49·77
12	51·16
15	50·40

ν Orionis.

	75°13′
Feb. 1	5·32
17	4·74
22	5·50
26	5·00

Columbæ.
R.A. $6^h\ 3^m$.

	127°11′
Feb. 22	0·65
26	0·62

η^2 Doradus.

	155°33′
Feb. 11	24·40
12	25·35
15	24·86

η^2 Doradus, S.P.	
	155°33′
Aug. 5	24·81

Mensæ. B.A.C. 2085.	
	175°55′
Feb. 11	17·84
17	18·30
19	18·25
22	18·92
26	18·89

Mensæ. B.A.C. 2085, S.P.	
	175°55′
Aug. 23	18·05
24	18·26
25	18·89
27	18·13
Sept. 1	17·49
8	18·92

α Argûs.	
	142°37′
Mar. 4	21·89

Argûs. Brisbane 1244.	
	142°43′
Feb. 17	46·18
19	47·24
22	46·30
26	45·83

π Doradus.	
	159°54′
Feb. 11	28·77
12	29·62
15	30·06

Canis Majoris. B.A.C. 2158.	
	126° 7′
Feb. 17	54·17
19	57·40
22	55·33
26	55·25

γ Geminorum.	
	73°29′
Mar. 4	14·13
7	14·89
11	15·04

α Canis Majoris.	
	106°31′
Feb. 11	55·20
12	55·00
15	54·97
17	54·86
22	56·11
26	54·95
Mar. 4	55·65
7	54·69
9	54·79
11	55·74
15	56·89

x Puppis.	
	127°46′
Feb. 17	53·46
19	54·32
22	53·39
26	53·28

Canis Majoris. R.A. 6^h 44^m.	
	122°23′
Feb. 22	15·64
26	14·93

τ Argûs.	
	140°27′
Feb. 17	13·33
19	14·96
26	13·17

α Pictoris.	
	151°47′
Feb. 11	43·57
12	44·27
15	44·33
Mar. 9	43·39

ζ Mensæ, S.P.	
	170°39′
Apl. 14	56·09
Aug. 26	55·15
31	55·70
Sept. 1	54·84
9	54·57

ϵ Canis Majoris.	
	118°47′
Feb. 11	20·18
17	19·77
Mar. 4	20·72
7	20·43
11	20·40
15	21·42

Canis Majoris. R.A. 6^h 54^m.	
	118°46′
Feb. 22	39·79
26	38·92

γ Canis Majoris.	
	105°26′
Feb. 19	4·41
22	4·65
26	3·97

γ Canis Majoris. *(continued).*	
	105°26′
Mar. 4	4·01
7	4·23
11	4·38
15	6·41

γ^1 Volantis.	
	160°16′
Feb. 11	31·10

γ^2 Volantis.	
	160°16′
Feb. 11	37·38
12	37·77
15	37·99

δ Geminorum.	
	67°46′
Mar. 7	11·58
23	13·37

δ Volantis.	
	157°42′
Feb. 15	27·87
Mar. 7	29·27
11	28·17

Canis Majoris. R.A. 7^h 18^m.	
	119° 1′
Mar. 22	36·85
23	37·38

η Canis Majoris.	
	119° 2′
Mar. 15	32·46
22	34·36
23	33·25

Mensæ. Lac. 2936, S.P.	
	173°31′
Sept. 1	49·27
8	49·99
9	49·73
13	48·65

α^1 Geminorum.	
	57°49′
Mar. 7	1·67
23	2·27
Apl. 21	2·00

α^2 Geminorum.	
	57°48′
Mar. 7	59·04
9	58·42
11	60·00
23	59·85
Apl. 21	58·93

α Canis Minoris.	
	84°25′
Feb. 15	44·53
Mar. 3	45·92
9	44·40

Octantis. R.A. $7^h\ 34^m$.	
	176°47′
Apl. 14	40·18
21	41·84

Octantis. R.A. $7^h\ 34^m$, S.P.	
	176°47′
Apl. 14	41·98
Sept. 13	40·82
21	41·14
28	40·75
30	41·06

d^1 Puppis.	
	127°59′
Apl. 4	49·63

d^3 Puppis.	
	127°56′
Mar. 7	54·92
22	56·18
23	55·85

β Geminorum.	
	61°38′
Mar. 3	53·71
9	52·13
Apl. 21	52·31

3 Puppis.	
	118°37′
Mar. 22	56·02
23	53·20
April 4	53·96

w Puppis.	
	130°36′
Mar. 7	10·60
Apl. 21	10·26

c^1 Puppis.	
	127°38′
Mar. 22	26·34
23	25·12
April 4	26·13
21	23·99
25	27·31

ζ Volantis.	
	162°16′
Feb. 11	42·96
Mar. 7	41·93
11	41·92

6 Cancri.	
	61°49′
Mar. 3	38·45
22	39·65
23	37·34
April 4	37·75
8	38·50

15 Argûs.	
	113°54′
Mar. 3	51·34
4	52·20
7	50·42
15	51·97
23	51·21
April 4	50·75
8	49·72

Velorum. B.A.C. 2754.	
	136°56′
Mar. 7	44·48
15	45·17
16	45·60
22	44·80

γ Argûs.	
	136°56′
Mar. 11	12·44
15	14·04
23	13·26

q Puppis.	
	126°14′
Mar. 7	22·52
16	22·25
22	23·22

Octantis. B.A.C. 2878.	
	178°28′
Mar. 22	9·56
23	9·09
April 4	8·92
8	7·69
19	10·32
23	9·29

Octantis. B.A.C. 2878, S.P.	
	178°28′
Apl. 22	5·61
Sept. 15	8·30
28	8·52
30	7·43
Oct. 12	8·42

ϵ Argûs.	
	149° 4′
Mar. 7	21·64
11	20·57
16	22·26

Puppis. B.A.C. 2846.	
	115°41′
Mar. 7	3·99
22	4·90
23	4·93

Velorum. B.A.C. 2847.	
	139° 3′
April 4	4·26
8	3·37
12	2·48
19	4·36

θ Chamæleontis.	
	167° 2′
Mar. 7	38·78
15	38·91
16	38·84

η Cancri.	
	69° 5′
Mar. 30	55·70
April 4	57·73
8	56·21
21	56·06

Mali. B.A.C. 2898.	
	116°22′
Mar. 7	33·64
16	34·87
Apl. 19	34·66

Chamæleontis. B.A.C. 2928.	
	170°27′
Apl. 23	56·13
May 3	55·42

Chamæleontis. B.A.C. 2928, S.P.	
	170°27′
Apl. 22	51·83
May 2	52·91
Sept. 30	54·23

Velorum. B.A.C. 2956.	
	138°26′
Mar. 23	18·76
April 4	19·90
8	19·18
11	18·71
12	17·98

θ Volantis.	
	159°54′
Mar. 7	4·42
11	4·20
15	5·01

ϵ Hydræ.	
	83° 5′
Mar. 30	3·06
April 4	3·87
8	2·94
11	3·28
12	2·75
19	3·98
21	3·00

d Mali.	
	117° 9′
Mar. 7	36·18
11	36·18
15	36·76
16	37·27

ι Ursæ Majoris.	
	41°25′
Mar. 22	35·92
23	27·81
April 4	30·72
11	28·79

Velorum. B.A.C. 3071.	
	138° 2′
Mar. 22	53·78
23	52·77
30	51·38

b^1 Carinæ.	
	148°42′
Mar. 7	17·48
11	17·66
16	19·69

b^1 Carinæ, S.P.	
	148°42′
Sept. 30	16·75

G Carinæ.	
	162° 3′
Mar. 7	19·14
11	18·43
16	19·74

G Carinæ, S.P.	
	162° 3′
Sept. 30	19·37

83 Cancri.	
	71°43′
Mar. 11	11·22
16	9·50
23	10·44
30	10·51
April 4	11·41
11	9·57
12	8·15
21	9·80

ι Argûs, S.P.	
	148°42′
Oct. 12	16·48

h Mali.	
	115°23′
April 4	17·29
8	16·61
11	16·83

ζ Octantis.	
	175° 6′
Mar. 7	47·65
11	47·89
16	48·17

ζ Octantis. *(continued).*	
	175° 6′
Mar. 22	48·82
23	48·54
Apl. 12	48·05
19	49·03
21	48·71
May 3	48·54

ζ Octantis, S.P.	
	175° 6′
May 2	48·08
Oct. 19	47·59
21	47·22

α Hydræ.	
	98° 4′
Mar. 23	13·98
Apl. 11	13·42
June 1	14·09

Velorum. B.A.C. 3234.	
	140°35′
Apl. 19	10·64
21	9·93
May 3	9·27

Mali. B.A.C. 3243.	
	115°59′
Apl. 12	54·91
14	55·32
21	56·25

n Carinæ.	
	154°20′
April 4	27·78
8	26·86

n Carinæ, S.P.	
	154°20′
Sept. 30	24·48
Mali. B.A.C. 3248.	
	115°59′
Apl. 11	41·61
19	42·40
21	42·18
ψ Argûs.	
	129°52′
Apl. 19	21·88
21	20·64
25	21·40
June 1	20·77
3	20·99
m Carinæ.	
	150°42′
Apl. 4	46·20
8	46·26
11	46·50
12	46·16
ϵ Leonis.	
	65°36′
June 1	3·21
Velorum. B.A.C. 3335.	
	140°36′
April 4	21·53
8	23·15
12	21·22

v Argûs.	
	154°26′
April 4	29·72
8	29·87
12	30·50
Antliæ. B.A.C. 3367.	
	125°38′
Apl. 11	5·65
14	6·70
19	7·79
21	6·31
Antliæ. B.A.C. 3385.	
	116°41′
April 4	48·19
12	48·32
19	49·96
21	49·41
π Leonis.	
	81°18′
April 4	17·35
11	16·30
19	17·01
21	16·36
May 2	16·43
3	15·60
α Leonis.	
	77°22′
Apl. 25	11·02
May 3	9·05
6	9·45
Velorum. B.A.C. 3462.	
	140°24′
Apl. 11	54·57
19	56·33
21	54·99

Hydræ. B.A.C. 3489.	
	116°21′
Apl. 11	27·99
14	28·31
21	28·53
q Velorum.	
	131°26′
Apl. 19	57·28
21	56·57
25	56·27
ω Argûs.	
	159°21′
Apl. 11	46·67
12	46·25
May 3	47·12
6	46·57
Octantis[1]. B.A.C. 3524.	
	173°25′
May 2	8·94
Octantis[2]. B.A.C. 3524.	
	173°25′
Apl. 21	8·95
May 2	8·94
γ^1 Leonis.	
	69°28′
Apl. 14	16·10
25	18·34
June 2	17·56

α Antliæ.	
	120°22′
May 2	33·72
3	33·66
6	34·39
ρ Leonis.	
	79°59′
Apl. 11	38·37
19	40·37
21	38·56
May 2	39·75
Chamæleontis. B.A.C. 3654.	
	165°36′
May 2	15·27
3	15·77
6	15·43
θ Argûs.	
	153°40′
May 2	57·76
3	57·38
6	57·50
η Argûs.	
	148°58′
Apl. 19	13·44
May 2	12·52
6	13·00
l Leonis.	
	78°44′
Apl. 11	8·71
May 19	8·49

δ^1 Chamæleontis.

	169°45′
May 2	6·89
3	6·11
6	6·24

δ^2 Chamæleontis, S.P.

	169°49′
Nov. 1	22·30

Chamæleontis. B.A.C. 3756.

	168°50′
May 2	9·76
3	9·09
6	9·63

χ Leonis.

	81°55′
May 10	45·38

η Octantis.

	173°51′
June 3	44·61

η Octantis, S.P.

	173°51′
Oct. 17	42·48

δ Hydræ et Crateris.

	104° 2′
May 3	33·58
6	33·89
10	34·85

Chamæleontis. B.A.C. 3889.

	161°30′
May 2	35·21
3	34·72
6	34·81

Octantis. Lac. 4784.

	174°12′
May 2	24·35
3	25·04
6	24·68
June 18	25·31
21	24·17

Octantis. Lac. 4784, S.P.

	174°12′
June 1	23·07
Nov. 16	22·16
18	22·59
21	23·94

λ Centauri.

	152°16′
May 10	3·75
19	2·89
30	3·72

υ Leonis.

	90° 4′
May 6	22·68

Octantis. Lac. 4865.

	174°43′
May 6	62·60

Octantis. Lac. 4865, S.P.

	174°43′
Nov. 15	60·29
16	59·76
18	60·62
21	61·15

β Leonis.

	74°40′
May 2	3·61
6	3·24
10	3·41
19	2·76
23	2·03
30	2·83

Octantis. B.A.C. 4058.

	174°52′
June 13	28·08
14	27·94
16	27·83
18	29·55
29	27·77
30	29·28

Octantis. B.A.C. 4058, S.P.

	174°52′
June 14	27·76
Nov. 16	26·68
18	26·82

η Crucis.

	153°51′
May 10	18·15
19	18·14
23	18·35

ϵ Corvi.

	111°51′
May 6	46·80
10	47·74
19	46·99
June 1	48·71
2	47·05
13	45·90
16	47·10
18	46·74
29	46·94

β Chamæleontis.

	168°33′
May 30	24·59
June 14	24·19
21	23·40
30	25·20

β Chamæleontis, S.P.

	168°33′
June 14	23·36
Nov. 15	23·84
16	23·10
18	24·33

η Virginis.

	89°54′
May 6	38·19
June 13	36·95
30	38·65
July 5	37·90

α^1 Crucis, S.P.

	152°20′
Nov. 21	40·11

α^2 Crucis.

	152°20′
June 30	44·85

α^2 Crucis, S.P.	
	152°20′
June 30	44·77
Nov. 16	41·87
21	41·91

σ Centauri.	
	139°28′
May 10	37·79
19	37·22
June 10	37·21

γ Muscæ.	
	161°22′
May 10	52·41
19	52·46
23	52·29

β Corvi.	
	112°38′
May 12	37·48
June 13	38·19
14	37·69
16	38·19
18	38·42
30	37·90

Hydræ. B.A.C. 4253.	
	116°23′
May 10	11·94
12	10·58
19	10·98

γ^1 Virginis.	
	90°42′
May 10	8·91
June 13	7·41

γ^2 Virginis.	
	90°42′
June 16	12·31
July 5	12·04

β Muscæ.	
	157°21′
May 10	45·86
12	45·36
19	46·57

ι Octantis.	
	174°22′
May 12	60·51
23	60·40
June 8	61·36
16	59·69
27	60·61
July 5	60·53

12 Canum Venaticorum.	
	50°56′
May 19	46·66
30	45·83
June 13	45·54
16	44·79
27	46·65

δ Muscæ.	
	160°48′
May 12	50·11
19	51·07
23	51·50

θ Virginis.	
	94°48′
June 8	42·88
13	43·05
14	42·90
18	42·70
27	43·07

η Muscæ.	
	157°10′
May 12	20·29
30	21·04
June 8	20·60

Octantis. B.A.C. 4460.	
	175° 7′
May 12	4·31
23	5·28
30	5·67
June 16	4·71
18	5·30

α Virginis.	
	100°27′
June 8	0·73
July 22	0·68

κ Octantis.	
	175° 5′
June 14	7·49
16	7·81
18	9·31
27	8·28
July 15	8·51

κ Octantis, S.P.	
	175° 5′
July 13	6·35

Centauri. B.A.C. 4507.	
	128°42′
May 12	11·41
23	12·03
30	11·78
June 8	12·53

ζ Virginis.	
	89°53′
June 14	57·96
16	57·38
27	57·52
July 22	57·16

k Centauri.	
	122°19′
June 8	4·92
27	5·56

k^2 Centauri.	
	122°19′
June 30	8·29

η Boötis.	
	70°55′
May 20	9·16
June 27	8·28
30	9·40
July 22	7·01

θ Apodis.	
	166° 8′
June 29	14·52
30	15·51
July 5	14·79

β Centauri.	
	149°42′
June 16	52·88

η Apodis.	
	170°21′
June 23	58·44
29	58·77
30	59·28
July 5	57·16

δ Octantis.

	173° 2′
June 9	22·92
10	22·18
July 11	23·32
13	23·38
15	23·35
28	23·48

ϵ Apodis.

	169°28′
June 23	37·45
29	38·06
30	38·31
July 5	37·36

α Boötis.

	70° 6′
June 27	29·45
July 13	28·42
15	28·80
Aug. 3	26·57

Apodis.
B.A.C. 4754.

	157°34′
June 27	25·46
29	26·51
30	26·18

Octantis.
R.A. 14^h 16^m.

	175°48′
July 28	2·37
30	2·21
Aug. 3	2·01

Octantis.
R.A. 14^h 16^m, S.P.

	175°48′
July 27	1·68
Aug. 3	2·42

Libræ.
B.A.C. 4767.

	114°11′
June 23	11·63
27	12·53
29	13·27
30	11·98

Octantis.
B.A.C. 4790.

	177°34′
July 11	59·81
13	59·95
15	59·34
26	58·87
28	60·86
Aug. 3	59·21

Octantis.
B.A.C. 4790, S.P.

	177°34′
July 27	59·30

ρ Boötis.

	59° 1′
June 29	47·03
July 5	46·36

α^2 Centauri.

	150°16′
June 29	22·25

α Apodis.

	168°27′
July 13	46·05
15	44·88
26	44·75
28	46·08

Centauri.
B.A.C. 4842.

	127°12′
June 29	26·78
30	26·41
July 5	26·47

ϵ Boötis.

	62°21′
July 13	1·48
15	2·07

Octantis.
B.A.C. 4883.

	172°29′
July 26	8·90
28	9·71
30	8·34

Octantis.
B.A.C. 4883, S.P.

	172°29′
Aug. 3	9·52

α^1 Libræ.

	105°25′
July 11	44·91

α^2 Libræ.

	105°28′
July 13	27·80
15	27·17
Aug. 3	26·66
10	27·06

Lupi.
B.A.C. 4901.

	127°14′
June 29	27·26
30	27·30
July 5	27·04

Trianguli Australis.
B.A.C. 4919.

	157°26′
June 29	11·24
30	11·91
July 5	10·45

ψ Boötis.

	62°31′
June 29	11·81
July 5	10·96
11	11·58
13	11·22
15	11·61
30	12·25
Aug. 10	10·54

Lupi.
B.A.C. 4996.

	125°34′
June 29	34·37
30	33·58
July 11	32·54

β Libræ.

	98°52′
June 29	43·58
July 11	41·74
13	43·08
15	43·66
Aug. 10	43·19

ρ Octantis.

	174° 0′
July 5	5·18
25	4·18
28	6·01
Aug. 19	5·37

ρ Octantis, S.P.	
	174° 0′
Jan. 4	5·82
6	5·02
14	4·79
Aug. 3	5·43

ϕ^1 Lupi.	
	125°45′
July 11	54·44
13	53·97
15	53·83

ε Trianguli Austr.	
	155°51′
July 5	17·66
11	19·20
13	18·30

α Coronæ Borealis.	
	62°49′
July 11	33·05
25	31·37
26	30·90
Aug. 2	31·95

Lupi. B.A.C. 5171.	
	126°59′
July 5	6·28
11	5·00
13	6·46

α Serpentis.	
	83° 8′
July 11	39·30
13	39·27
15	38·71
25	38·52

κ Trianguli Austr.	
	158°11′
July 13	32·61
15	32·79
22	31·79

χ Lupi.	
	123°12′
July 25	34·42
28	34·19
Aug. 2	34·60
3	33·65

ρ Scorpii.	
	118°48′
July 22	48·41
25	48·93
28	49·49

π Scorpii.	
	115°43′
July 28	9·86
Aug. 3	7·27
8	9·36

η Lupi.	
	128° 0′
July 22	16·01
25	16·41
Aug. 8	15·89

δ Scorpii.	
	112°13′
July 28	54·32
Aug. 2	53·65
8	53·31

β^1 Scorpii.	
	109°25′
July 22	47·65
25	49·05
26	47·96
28	48·14
Aug. 2	48·11
8	48·48

δ^1 Apodis.	
	168°20′
July 20	41·71
Aug. 19	43·09
25	42·34
27	42·19
30	43·33

δ^1 Apodis, S.P.	
	168°20′
Aug. 12	41·05
18	43·81
26	42·36

c^1 Scorpii.	
	118° 3′
July 25	37·07
28	37·40
Aug. 2	36·46

ν Scorpii.	
	109° 6′
July 20	14·56
Aug. 8	14·51
18	16·11

δ Ophiuchi.	
	93°20′
Aug. 8	29·09

Octantis. B.A.C. 5412.	
	176° 5′
July 20	31·45
Aug. 18	29·74
19	31·15
24	30·02
25	30·60
27	29·83

Octantis. B.A.C. 5412, S.P.	
	176° 5′
Jan. 18	30·35
25	29·81
27	28·85
29	29·93
Aug. 12	29·74
23	30·65
24	30·50
26	29·48

Normæ. B.A.C. 5438.	
	137°51′
Sept. 1	24·91

γ Apodis.	
	168°34′
July 25	59·17
28	60·04
Aug. 2	59·10

α Scorpii.	
	116° 7′
July 26	36·03
Aug. 8	36·85

β Apodis.

	167°13′
July 25	28·70
28	29·68
Aug. 2	29·22

τ Scorpii.

	117°55′
July 20	48·72
25	48·59
26	48·00
Aug. 2	49·16

α Trianguli Austr.

	158°46′
Aug. 8	19·33

α Trianguli Austr., S.P.

	158°46′
Jan. 14	17·54
18	17·89
29	18·00
Feb. 1	17·47
3	16·39

Trianguli Australis. B.A.C. 5654.

	159° 2′
Aug. 5	48·22
18	48·94
19	48·92
25	49·78

κ Ophiuchi.

	80°24′
July 25	38·26
28	38·38
Aug. 2	38·88
5	37·81

Octantis. Brisbane 5928.

	172°37′
Sept. 1	37·87
5	37·34
6	37·97
8	37·81

Octantis. Bris. 5928, S.P.

	172°37′
Sept. 6	38·50

Apodis. B.A.C. 5794.

	170°43′
Aug. 5	20·52
23	19·39
24	19·32
Sept. 6	19·01

Apodis. B.A.C. 5794, S.P.

	170°43′
Sept. 6	19·56

ι Apodis.

	159°58′
Aug. 19	24·87
25	23·36
27	23·35
Sept. 1	23·78

α Herculis.

	75°27′
Aug. 5	5·48
15	6·00

Ophiuchi. B.A.C. 5846.

	114°45′
Aug. 5	52·31
18	53·50
25	54·06

θ Ophiuchi.

	114°51′
Aug. 8	36·34
15	36·11
19	35·99
23	36·11

b Ophiuchi.

	114° 2′
Aug. 5	47·65
18	47·45
25	46·47

d Ophiuchi.

	119°44′
Aug. 23	23·76
27	23·04
Sept. 1	23·72

α Ophiuchi.

	77°20′
Aug. 18	16·67
23	17·92
Sept. 21	17·15

η Pavonis.

	154°39′
Aug. 5	8·08
18	9·32
19	9·78

Octantis. B.A.C. 5936.

	177°39′
Aug. 23	0·93
24	1·41
25	1·58
27	0·86
Sept. 1	1·43
8	1·19
13	1·42
19	1·48
21	1·04

Octantis. B.A.C. 5936, S.P.

	177°39′
Feb. 9	0·16
11	1·08
15	0·25
22	0·59

μ Herculis.

	62°11′
Sept. 6	50·50
8	50·41
21	50·32

σ Octantis.

	179°16′
Aug. 23	44·10
24	43·02
25	43·54
27	43·71
Sept. 1	44·12
5	44·73
8	43·81

σ Octantis, S.P.

	179°16′
Feb. 1	43·43
11	43·95
22	43·57
26	43·69

π Pavonis.	
	153°40′
Aug. 5	4·15
31	4·36

π Pavonis, S.P.	
	153°40′
Feb. 12	3·70
15	3·90

γ^1 Sagittarii.	
	119°34′
Sept. 15	56·05
19	56·22
21	54·92

Octantis. B.A.C. 6156.	
	170°17′
Sept. 1	12·41
8	12·02

Octantis. B.A.C. 6164, S.P.	
	165° 5′
Feb. 11	34·72
12	32·30
15	33·97

μ^1 Sagittarii.	
	111° 5′
Aug. 15	25·89
23	25·99
24	26·26
Sept. 21	26·03

Octantis. B.A.C. 6205.	
	171°54′
Sept. 5	2·71
7	2·25
15	3·21

Pavonis. B.A.C. 6242.	
	161°51′
Sept. 5	12·45
7	12·46
19	13·55
21	13·54

Pavonis. B.A.C. 6242, S.P.	
	161°51′
Feb. 12	12·34
15	13·27

λ Sagittarii.	
	115°29′
Aug. 5	34·32
24	34·63
Sept. 1	35·14

Octantis. Lacaille 7612.	
	174° 5′
Aug. 24	9·54
25	10·91
Sept. 1	10·20
7	8·44
8	9·54

ζ Pavonis, S.P.	
	161°32′
Feb. 11	15·25
12	14·40
15	15·86

α Lyræ.	
	51°20′
Aug. 24	25·59
Sept. 1	26·46
5	25·91

θ Pavonis, S.P.	
	155°12′
Feb. 11	44·68
12	44·55
15	46·92

β Lyræ.	
	56°47′
Sept. 5	34·50

Pavonis. B.A.C. 6494.	
	158°37′
Aug. 31	36·86

Pavonis. B.A.C. 6494, S.P.	
	158°37′
Feb. 12	36·58
15	37·23

ζ Aquilæ.	
	76°20′
Aug. 31	9·82
Sept. 1	8·86
9	9·02
13	9·48

τ Pavonis.	
	159°24′
Aug. 26	52·34

τ Pavonis, S.P.	
	159°24′
Feb. 12	53·79
15	53·40

Octantis. Brisbane 6598.	
	172° 1′
Aug. 23	2·53
24	2·71
Sept. 1	2·81
9	2·42
13	3·55

ω Aquilæ.	
	78°38′
Aug. 24	49·28
Sept. 5	48·87
9	48·53
13	50·05

δ Aquilæ.	
	87° 9′
Sept. 15	12·50
21	11·89

h^2 Sagittarii.	
	115°10′
Aug. 23	49·05
Sept. 7	49·27
13	49·52
21	49·18

Octantis. B.A.C. 6708.	
	171°40′
Aug. 31	49·19
Sept. 8	48·86
9	49·16

Octantis. B.A.C. 6708, S.P.	
	171°40′
Mar. 7	48·44

e^2 Sagittarii.	
	106°26′
Aug. 29	18·51
Sept. 5	22·07
9	21·08

γ Aquilæ.	
	79°42′
Aug. 31	55·52
Sept. 15	56·88
28	55·79
30	55·19

α Aquilæ.	
	81°29′
Sept. 9	17·27
13	16·96
28	17·69

ω Sagittarii.	
	116°39′
Sept. 5	25·04
9	24·59
13	24·67
15	25·72

β Aquilæ.	
	83°55′
Sept. 28	48·87
30	49·15

δ Pavonis, S.P.	
	156°31′
Mar. 7	23·87
11	23·49
16	22·72

Octantis. B.A.C. 6859.	
	173°43′
Sept. 28	8·54
30	8·11

Octantis. B.A.C. 6859, S.P.	
	173°43′
Apl. 14	7·82
25	8·85

Sagittarii. B.A.C. 6889.	
	111°41′
Sept. 21	38·50

Octantis. B.A.C. 6900.	
	170° 0′
Apl. 22	29·45

Octantis. B.A.C. 6900, S.P.	
	170° 0′
Apl. 23	27·44

Sagittarii. B.A.C. 6922.	
	126°26′
Sept. 21	23·24

Sagittarii. B.A.C. 6947.	
	117°26′
Sept. 21	8·68

α^1 Capricorni.	
	102°55′
Sept. 20	32·12

Octantis. B.A.C. 6955.	
	171°24′
Sept. 30	14·45

Octantis. B.A.C. 6955, S.P.	
	171°24′
Mar. 30	13·99

α^2 Capricorni.	
	102°57′
Sept. 28	48·64

α Pavonis.	
	147° 9′
Mar. 23	61·48
Sept. 20	61·07
28	60·65
30	61·66

α Pavonis, S.P.	
	147° 9′
Mar. 23	59·02

Sagittarii. B.A.C. 7025.	
	127°50′
Sept. 21	22·81

ρ Capricorni.	
	108°15′
Sept. 20	37·22
28	37·51
30	38·18

Capricorni. B.A.C. 7077.	
	115°24′
Sept. 21	0·32

β Pavonis, S.P.	
	156°41′
Mar. 7	12·13
11	14·00
16	13·76

σ Pavonis.	
	159°16′
Sept. 28	8·07

σ Pavonis, S.P.	
	159°16′
Mar. 7	5·80
16	7·27

α Cygni.	
	45°12′
Sept. 30	11·24

β Indi.	
	148°57′
Mar. 7	49·09

β Indi, S.P.	
	148°57′
Mar. 7	47·38
22	44·71
23	46·89

Octantis. B.A.C. 7020.	
	179°27′
May 2	60·82
Sept. 28	60·71
30	61·33

Octantis. B.A.C. 7020, S.P.	
	179°27′
Apl. 4	60·31
8	60·14
11	59·79
12	60·60
19	59·43
23	60·91
May 3	61·11

α Octantis, S.P.	
	167°32′
Apl. 19	11·99
21	12·15

32 Vulpeculæ.	
	62°27′
Oct. 12	28·20

o Pavonis, S.P.	
	160°40′
Mar. 7	35·65
11	36·28
15	35·76
16	36·29

61¹ Cygni.	
	51°55′
Sept. 30	3·28

ζ Cygni.	
	60°19′
Sept. 30	45·51
Oct. 12	45·51

ι Capricorni.	
	107°24′
Oct. 12	41·50
17	42·51

γ Pavonis.	
	155°58′
Sept. 30	40·59

β Aquarii.	
	96°10′
Oct. 12	3·18
17	3·86
21	2·36

λ¹ Octantis.	
	173°20′
Oct. 17	20·76

λ¹ Octantis, S.P.	
	173°20′
April 4	20·76
8	19·52
11	20·30
12	19·98
14	19·98

γ Capricorni.	
	107°16′
Sept. 30	28·63
Oct. 12	28·98
17	28·85

ϵ Pegasi.	
	80°44′
Sept. 30	49·10
Oct. 12	49·92
21	47·59
28	49·77

o Indi, S.P.	
	160°15′
Apl. 11	31·61
14	32·50
19	29·66

κ Indi.	
	149°39′
Oct. 17	28·30

κ Indi, S.P.	
	149°39′
April 4	30·24
11	26·89

Octantis. Lacaille 8897.	
	174° 0′
Oct. 25	49·71

α Gruis.	
	137°37′
Oct. 25	3·40

α Tucanæ.	
	150°56′
Oct. 17	8·90
19	8·20

α Tucanæ, S.P.	
	150°56′
May 3	8·25

δ Tucanæ.	
	155°39′
Oct. 17	22·83

δ Tucanæ, S.P.	
	155°39′
Apl. 11	23·33
21	23·28

ν Tucanæ.	
	152°40′
Oct. 17	43·85

ν Tucanæ, S.P.	
	152°40′
May 3	40·48
6	43·75

β Octantis.	
	172° 5′
Oct. 19	32·66
28	33·27
Nov. 4	31·75

β Octantis, S.P.	
	172° 5′
June 3	31·04
10	31·02

ρ Indi.	
	160°47′
Oct. 17	54·61
19	55·73
21	54·92

ρ Indi, S.P.	
	160°47′
May 3	53·83
6	54·23

α Piscis Austr.	
	120°20′
Oct. 19	30·96
21	30·54
Nov. 1	30·43
7	31·65

α Pegasi.

	75°31′
Oct. 28	32·08

Tucanæ. B.A.C. 8040, S.P.

	164°19′
May 2	12·51
3	12·92
6	14·82

τ Octantis.

	178°13′
June 1	38·83
Nov. 7	37·34

τ Octantis, S.P.

	178°13′
May 2	37·58
3	37·39

τ Octantis, S.P. *(continued).*

	178°13′
May 10	36·81
12	37·97
19	37·50
20	37·91
30	36·58
June 3	37·18
21	37·63

γ Tucanæ.

	148°58′
Nov. 16	50·66
18	48·54
21	49·80

κ Piscium.

	89°29′
Nov. 7	17·75
15	17·23
16	17·34
21	18·35

ι Piscium.

	85° 6′
Nov. 7	37·58

δ Sculptoris.

	118°52′
Oct. 28	55·47

γ^1 Octantis.

	172°46′
June 14	30·40
Nov. 15	28·06
16	28·91
18	27·89
21	28·17

γ^1 Octantis, S.P.

	172°46′
June 14	27·75
18	27·06

γ^1 Octantis, S.P. *(continued).*

	172°46′
June 22	28·63
29	26·99

γ^2 Octantis.

	172°55′
June 14	34·60

γ^2 Octantis, S.P.

	172°55′
June 30	33·02

ω Piscium.

	83°53′
Oct. 28	21·07
Nov. 4	21·47
15	20·97
16	22·37