Άρης Μυλωνάς 23.70° East, 38.00° North **Standard Time** Julian day at 0h ST = (2460309.4167) +**Evening** Morning 16h 17h 18h 19h 20h 21h 22h 23h 2h 3h December 31st January 1st Quadrantids /Moon-Spica/ January 8th January 7th Moon-Antares January 15th January 14th Moon-Jupiter -Moon-Pleiades January 22nd January 21st Moon-Uranus (22)Moon-Pollux Moon−Regulus Mercury-Mars January 28th January 29th (29)February 5th February 4th Moon-Antares (36)February 11th February 12th February 19th February 18th Moon-Pollux Venus=Mars Moon=Regult February 25th February 26th Moon=Spica March 3rd March 4th March 11th March 10th Moon-Pleiades March 17th March 18th March 25th March 24th Moon-Spica ← Moon=Antares March 31st April 1st April 7th April 8th (99)Mars-Saturn Moon-Pleiades April 14th April 15th /enus sets Venus rises (106)April 22nd April 21st ■Moon=Spica (113)Moon-Antares < Mars≡Neptun April 28th April 29th (120)Mercury se Moon-Pleiades Eta Aquarids May 5th May 6th (127)May 12th May 13th Moon-Pollux Mercui (134)> < Moon-Regulus May 19th May 20th (141)May 26th May 27th (148)Moon-Neptune June 3rd June 2nd (155)June 9th June 10th (162)←Moon=Regulu June 16th Moon-Spica June 17th (169)June 24th June 23rd (176)June 30th July 1st Moon-Pleiades (183)July 7th July 8th Moon=Regulus (190)← Moon–Spica July 15th July 14th Mars-Uranus (197)Moon-Antares July 21st July 22nd (204)Mercury-Regulus July 28th July 29th Moon-Pleiades Moon-Pollux August 5th August 4th (218)Perseids August 12th August 11th (225) Moon=Antares Mars-Jupiter August 18th August 19th (232) Moon-Neptun Moon-Neptune August 26th August 25th >< Moon-Uranus (239)Mercury sets September 2nd September 1st Moon-Regulus (246)Moon-Venus Moon-Spica September 8th September 9th Mercury-Regulus Venus sets (253)Venus rises September 15th September 16th (260)Venus-Spica September 22nd September 23rd (267)Neptune transits September 29th Uranus transits September 30th (274)Saturn/transits > < Moon-Spica Moon–Venus lupiter transits October 6th October 7th Moon-Antares (281)October 13th Moon-Saturn October 14th Moon-Pleiades October 20th October 21st (295)Moon-Pollux Orionids Venus-Antares October 27th October 28th Moon-Regulus (302)> < Moon-Spica November 3rd November 4th Moon-Antares Moon-Venus (309)Mercury-Antages November 10th November 11th (316)Moon-Uranus Moon-Uranus <u> eonids</u> November 17th November 18th (323)Moon-Mars Moon-Pollux Moon-Regulus November 25th November 24th December 1st December 2nd (337)Moon-Venus December 9th December 8th (344)Geminids Moon=Jupiter > Moon=Jupiter December 15th December 16th Moon-Pleiades (351)December 22nd December 23rd Moon-Spica (358)Moon-Antares December 29th December 30th 9h (365) 0h 15h 16h 17h 18h 22h 2h 3h 4h 5h 6h 8h 19h 20h 21h 23h 1h 7h <u>Ορολογία</u> Perihelion – Περιήλιο: Το πλησιέστερο σημείο της τροχιάς ενός πλανήτη από τον Ήλιο. Greatest Elongation – Μέγιστη Αποχή: Η μέγιστη γωνιώδης απόσταση μεταξύ του Ήλιου και ενός εσωτερικού Aldebaran – Λαμπαδίας: Λαμπρός αστέρας στον αστερισμό του Ταύρου. **Aphelion –Αφήλιο**: Το πιο απόμακρο σημείο της τροχιάς ενός πλανήτη από τον Ήλιο. πλανήτη (του Ερμή ή της Αφροδίτης) όπως παρατηρείται από τη Γη Pollux – Πολυδεύκης: Λαμπρός αστέρας στον αστερισμό των Διδύμων. **Perigee – Περίγειο**: Το πλησιέστερο σημείο της τροχιάς της Σελήνης από τη Γη. Apogee – Απόγειο: Το πιο απόμακρο σημείο της τροχιάς της Σελήνης από τη Γη. - κατά την **Ανατολική Αποχή** ο πλανήτης φαίνεται μετά τη δύση του Ηλίου στον δυτικό ορίζοντα. Regulus -Βασιλίσκος: Λαμπρός αστέρας στον αστερισμό του Λέοντα.

- κατά την **Δυτική Αποχή** ο πλανήτης φαίνεται πριν την ανατολή του Ηλίου στον ανατολικό ορίζοντα.

αποκρύψει ένα άλλο ουράνιο σώμα (όπως αστέρα, πλανήτη, δορυφόρο, αστεροειδή).

Opposition - Αντίθεση: όταν ένας εξωτερικός πλανήτης βρίσκεται σε μέγιστη αποχή 180 μοίρες από τον Ήλιο.

Conjunction – Σύνοδος: όταν ένας πλανήτης έχει την μικρότερη γωνιώδη απόσταση από τον Ήλιο ή άλλον πλανήτη, όπως φαίνεται από τη Γη

Occultation – Επιπρόσθηση: το φαινόμενο όπου ένα ουράνιο σώμα (όπως η Σελήνη, πλανήτης, δορυφόρος, αστεροειδής) είναι ικανό να

Inferior Conjunction – Κατώτερη Σύνοδος: Συμβαίνει όταν ένας εσωτερικός πλανήτης (ο Ερμής ή, η Αφροδίτη)

Superior Conjunction – Ανώτερη Σύνοδος: Συμβαίνει όταν ένας εσωτερικός πλανήτης (ο Ερμής ή, η Αφροδίτη)

βρίσκεται στην αντίθετη πλευρά του Ήλιου και στο πιο απόμακρο σημείο της τροχιάς του προς τη Γη.

βρίσκεται μεταξύ Γης και Ήλιου και στο πλησιέστερο σημείο της τροχιάς του προς τη Γη.

 $\underline{\textbf{Μετεωρικές Βροχές}}$: Quadrantids : Βοωτίδες // Aquarids : Υδροχοΐδες // Perseids : Περσείδες // Orionids : Ω ριωνίδες // Leonids : Λεοντίδες // Geminids : Διδυμίδες

Main Phenomena **Standard Time** January 1st, 17:28 : Moon at apogee (D = 404909 km) January 3rd : The Earth at its perihelion (D = 0.983 AU) January 4th, 05:30 : LAST QUARTER OF THE MOON January 5th, 02:10: the Moon is 1.6° from Spica January 8th, 18:09: the Moon is 0.3° from Antares January 11th, 13:57: NEW MOON January 13th: Greatest western elong. of Mercury (23.5°) January 13th, 12:35 : Moon at perigee (D = 362267 km) January 18th, 05:52: FIRST QUARTER OF THE MOON January 18th, 21:30: the Moon is 2.4° from Jupiter January 19th, 18:51: the Moon is 2.5° from Uranus January 20th, 15:57: the Moon is 1.4° from the Pleiades January 24th, 20:12: the Moon is 1.9° from Pollux January 25th, 19:54: FULL MOON January 27th, 17:59: Mercury is 0.2° from Mars January 27th, 19:28: the Moon is 3.1° from Regulus January 29th, 10:14: Moon at apogee (D = 405777 km) February 1st, 11:56: the Moon is 0.7° from Spica February 3rd, 01:18: LAST QUARTER OF THE MOON February 5th, 01:37: the Moon is 0.2° from Antares February 10th, 00:59: NEW MOON February 10th, 20:49: Moon at perigee (D = 358088 km) February 16th, 17:01: FIRST QUARTER OF THE MOON February 16th, 23:27: the Moon is 0.8° from the Pleiades February 21st, 03:25: the Moon is 2.2° from Pollux February 22nd, 11:45 : Venus is 0.6° from Mars February 24th, 05:48: the Moon is 2.5° from Regulus February 24th, 14:30: FULL MOON February 25th, 16:59: Moon at apogee (D = 406312 km) February 28th, 16:41: the Moon is 1.0° from Spica March 3rd, 12:18: the Moon is 0.3° from Antares March 3rd, 17:24: LAST QUARTER OF THE MOON March 8th, 21:40: the Moon is 3.2° from Venus March 10th, 09:06 : Moon at perigee (D = 356895 km) March 10th, 11:00: NEW MOON March 15th, 05:41: the Moon is 1.3° from the Pleiades March 17th, 06:11: FIRST QUARTER OF THE MOON March 19th, 08:41: the Moon is 2.3° from Pollux March 20th, 05:06: SPRING EQUINOX March 22nd, 09:41: the Moon is 2.6° from Regulus March 23rd, 17:44 : Moon at apogee (D = 406294 km) March 24th: Greatest eastern elong, of Mercury (18.6°) March 25th, 09:00: FULL MOON March 26th, 22:33: the Moon is 0.9° from Spica March 30th, 16:53: the Moon is 0.1° from Antares April 2nd, 05:15: LAST QUARTER OF THE MOON April 7th, 19:51: the Moon is 0.1° from Venus April 7th, 19:53: Moon at perigee (D = 358850 km) April 8th, 20:21: NEW MOON April 10th, 22:39: Mars is 0.4° from Saturn April 11th, 15:56: the Moon is 0.6° from the Pleiades April 15th, 15:01: the Moon is 1.7° from Pollux April 15th, 21:13: FIRST QUARTER OF THE MOON April 18th, 14:32: the Moon is 3.1° from Regulus April 20th, 04:09: Moon at apogee (D = 405623 km) April 21st, 05:06 : Jupiter is 0.5° from Uranus April 23rd, 06:42: the Moon is 0.5° from Spica April 24th, 01:49: FULL MOON April 26th, 21:11: the Moon is 0.1° from Antares April 29th, 06:32: Mars is 0.0° from Neptune May 1st, 13:27: LAST QUARTER OF THE MOON May 6th, 00:11 : Moon at perigee (D = 363163 km) May 7th, 17:50: the Moon is 3.0° from Venus May 8th, 05:22 : NEW MOON May 8th: Mars at its perihelion (D = 1.382 AU) May 9th, 01:49: the Moon is 1.3° from the Pleiades May 10th: Greatest western elong. of Mercury (26.2°) May 13th, 00:54: the Moon is 2.4° from Pollux May 15th, 13:48: FIRST QUARTER OF THE MOON May 16th, 01:26: the Moon is 2.4° from Regulus May 17th, 20:59: Moon at apogee (D = 404640 km) May 20th, 12:03: the Moon is 1.0° from Spica May 23rd, 15:53 : FULL MOON May 24th, 06:33: the Moon is 0.3° from Antares May 30th, 19:13: LAST QUARTER OF THE MOON June 1st, 04:48: the Moon is 0.8° from Neptune June 2nd, 09:23 : Moon at perigee (D = 368102 km) June 5th, 11:18: the Moon is 0.7° from the Pleiades June 6th, 14:38: NEW MOON June 9th, 08:27 : the Moon is 2.1° from Pollux June 12th, 06:39: the Moon is 2.5° from Regulus June 14th, 07:18: FIRST QUARTER OF THE MOON June 14th, 15:36: Moon at apogee (D = 404077 km) June 16th, 21:07: the Moon is 0.4° from Spica June 20th, 12:40: the Moon is 0.2° from Antares June 20th, 22:51 : SUMMER SOLSTICE June 22nd, 03:08: FULL MOON June 27th, 13:45 : Moon at perigee (D = 369286 km) June 28th, 23:53: LAST QUARTER OF THE MOON July 2nd, 19:10: the Moon is 1.0° from the Pleiades July 5th: The Earth at its aphelion (D = 1.017 AU) July 6th, 00:57 : NEW MOON July 6th, 18:10 : the Moon is 2.4° from Pollux July 6th, 20:29: the Moon is 3.1° from Venus July 9th, 17:57: the Moon is 2.3° from Regulus July 12th, 10:12 : Moon at apogee (D = 404362 km) July 14th, 00:49: FIRST QUARTER OF THE MOON July 14th, 05:14: the Moon is 0.3° from Spica July 15th, 16:22: Mars is 0.5° from Uranus July 17th, 22:26: the Moon is 0.7° from Antares July 21st, 12:17 : FULL MOON July 22nd: Greatest eastern elong. of Mercury (26.9°) July 23rd, 07:35: OPPOSITION of Pluto with the Sun July 24th, 07:43 : Moon at perigee (D = 364917 km) July 25th, 23:46 : Mercury is 2.2° from Regulus July 28th, 04:51: LAST QUARTER OF THE MOON July 29th, 23:15: the Moon is 1.0° from the Pleiades August 3rd, 00:36: the Moon is 2.5° from Pollux August 4th, 13:13 : NEW MOON August 5th, 23:45: the Moon is 1.9° from Regulus August 6th, 01:02 : the Moon is 0.9° from Venus August 9th, 03:32 : Moon at apogee (D = 405297 km) August 10th, 11:10: the Moon is 0.4° from Spica August 12th, 17:19: FIRST QUARTER OF THE MOON August 14th, 07:17: the Moon is 0.2° from Antares August 14th, 16:59: Mars is 0.3° from Jupiter August 19th, 20:26: FULL MOON August 21st, 07:05 : Moon at perigee (D = 360196 km) August 21st, 23:37: the Moon is 0.2° from Neptune August 25th, 22:28: the Moon is 3.4° from Uranus August 26th, 05:28: the Moon is 0.2° from the Pleiades August 26th, 11:26: LAST QUARTER OF THE MOON August 30th, 05:55: the Moon is 1.9° from Pollux September 2nd, 04:15 : the Moon is 2.4° from Regulus September 3rd, 03:55 : NEW MOON September 5th: Greatest western elong. of Mercury (18.1°) September 5th, 08:48 : the Moon is 1.2° from Venus September 5th, 16:55: Moon at apogee (D = 406211 km) September 6th, 20:22: the Moon is 0.3° from Spica September 8th, 06:35: OPPOSITION of Saturn with the Sun September 9th, 10:40: Mercury is 0.5° from Regulus September 10th, 13:20: the Moon is 0.7° from Antares September 11th, 08:06: FIRST QUARTER OF THE MOON September 18th, 04:34: FULL MOON September 18th, 04:44: Partial lunar eclipse (> 50% vis.) September 18th, 11:55 : Venus is 2.4° from Spica September 18th, 15:26 : Moon at perigee (D = 357286 km) September 21st, 02:17: OPPOSITION of Neptune with the Sun September 22nd, 13:47: the Moon is 0.5° from the Pleiades September 22nd, 14:44 : AUTUMN EQUINOX September 24th, 20:50: LAST QUARTER OF THE MOON September 26th, 12:49: the Moon is 2.2° from Pollux September 29th, 13:53: the Moon is 2.1° from Regulus October 2nd, 20:49 : NEW MOON October 2nd, 21:40 : Moon at apogee (D = 406516 km) October 4th, 01:11: the Moon is 0.1° from Spica October 5th, 22:15: the Moon is 3.4° from Venus October 7th, 22:51: the Moon is 0.7° from Antares October 10th, 20:55: FIRST QUARTER OF THE MOON October 14th, 20:27: the Moon is 0.7° from Saturn October 15th, 18:39: the Moon is 0.4° from Neptune October 17th, 02:46: Moon at perigee (D = 357175 km) October 17th, 13:26: FULL MOON October 19th, 21:39: the Moon is 0.5° from the Pleiades October 23rd, 18:59: the Moon is 2.4° from Pollux October 24th, 10:03: LAST QUARTER OF THE MOON October 26th, 08:50 : Venus is 3.0° from Antares October 26th, 18:18: the Moon is 1.9° from Regulus October 30th, 00:50 : Moon at apogee (D = 406161 km) October 31st, 05:59: the Moon is 0.3° from Spica November 1st, 14:47: NEW MOON November 4th, 02:45: the Moon is 0.2° from Antares November 5th, 02:14: the Moon is 3.3° from Venus November 9th, 07:56: FIRST QUARTER OF THE MOON November 10th, 11:59: Mercury is 2.0° from Antares November 14th, 13:18: Moon at perigee (D = 360109 km) November 15th, 23:29: FULL MOON November 16th, 00:36: the Moon is 4.0° from Uranus November 16th, 10:25: the Moon is 0.6° from the Pleiades November 16th: Greatest eastern elong. of Mercury (22.4°) November 17th, 04:44: OPPOSITION of Uranus with the Sun November 20th, 03:28: the Moon is 2.0° from Pollux November 20th, 22:15 : the Moon is 2.0° from Mars November 22nd, 23:29: the Moon is 2.2° from Regulus November 23rd, 03:28: LAST QUARTER OF THE MOON November 26th, 13:56 : Moon at apogee (D = 405314 km) November 27th, 15:31: the Moon is 0.4° from Spica December 1st, 07:44: the Moon is 0.5° from Antares December 1st, 08:21: NEW MOON December 5th, 02:13: the Moon is 2.3° from Venus December 7th, 22:58: OPPOSITION of Jupiter with the Sun December 8th, 17:27: FIRST QUARTER OF THE MOON December 12th, 15:18 : Moon at perigee (D = 365361 km) December 13th, 19:01: the Moon is 0.4° from the Pleiades December 14th, 18:05: the Moon is 4.9° from Jupiter December 15th, 11:02 : FULL MOON December 17th, 14:05: the Moon is 2.9° from Pollux December 20th, 11:12: the Moon is 1.4° from Regulus December 21st, 11:20: WINTER SOLSTICE December 23rd, 00:18: LAST QUARTER OF THE MOON December 24th, 09:25 : Moon at apogee (D = 404485 km) December 24th, 21:24: the Moon is 0.1° from Spica December 25th: Greatest western elong. of Mercury (22.0°) December 28th, 18:28: the Moon is 0.5° from Antares December 31st, 00:27: NEW MOON

Spica - Στάχυς: Λαμπρός αστέρας στον αστερισμό της Παρθένου.

Moon – Σελήνη: Δορυφόρος της Γης.

Πλανήτες: Mercury : Ερμής // Venus : Αφροδίτη // Mars : Άρης // Jupiter : Δίας // Saturn : Κρόνος // Uranus : Ουρανός // Neptune : Ποσειδώνας

Antares - Αντάρης: Λαμπρός αστέρας στον αστερισμό του Σκορπιού

Pleiades – Πούλια: Λαμπρό ανοικτό αστρικό σμήνος στον αστερισμό του Ταύρου.