

SUBJECT INDEX

- Ālāt al-rasad* (astronomical instruments), 215.
- Adhika* (intercalary), 93.
- Advance of the Sun's Apogee, 172.
- Agricultural activities, 249.
- cycles, 241.
 - production and calendars, 36.
- Ahargana*, 102, 117-119, 126-129.
- Al 'Suphi's star atlases, 165.
- Alidade, 275.
- Alphonsine era (midday of 31.05.1252), 177.
- parameter, 176.
 - tables, 175.
- Ancient observatories
- India, 97-107.
 - China, 38-39.
- Andalusian treatise, 205.
- Aṅkabut*, 232, 227.
- Anomalistic revolution, 15.
- Antarikṣa*, 109.
- Apsidal line, 232.
- Arab-Islamic astronomy, 215.
- Arabic star names - nomenclature, 153-154.
- Archaeo-astronomy, 253.
- Ardharatrika* tables, 117.
- Armillary sphere, 33, 156, 215.
- Astrolabes, 215, 275.
- Astrolabio redondo*, 175.
- Astrological purposes, 253, 254.
- Astrology, 254.
- Astronomical instruments, 57-61, 69, 191, 215-226, 233-240.
- Astronomy and astrology.
- Babylonian, 37, 68.
 - China, 36-38.
- Auroral catalogues, 41.
- records, 41-42.
- Babylon, 254.
- Babylonia, 254, 259.
- Babylonian astronomy
- 4, 35, 63-66, 68, 73.
 - algebraic methods, 73.
 - clay tablets (1800 BC-A.D. 75), 63.
 - cuneiform records, 257.
- Belt of Orion, 250.
- Bīja* correction, 117.
- Billard-Mercier model, 276.
- Bimaṣakti* (Sagittarius cloud), 250.
- Bisection of eccentricity, 208.
- Calakə tu*, 109.
- Calendar
- Babylonian, 64.
 - Chinese, 34-39, 174.
 - Chinese Xuan ming, 135.
 - Futian*, 135.
 - Indian, 91-95.
 - Jiuzhio*, 135.
 - lunar, 147.
 - luni-solar, 34.
 - mangsa*, 243.
 - Muslim (1385), 169.
 - Reform by Julius Ceaser, 34.
 - Uighur*, 136.
 - system, 249.
- Calendrical techniques, 241.
- Carbon-14 Abundance, 254.
- Catalogue of stars (Ptolemy's), 178.
- Celestial spheres, 273.
- Centre of the deferent, 238.
- equant, 238.
- Chaldaeans, 63, 71.
- Cheng Xiang Fu clock of the Western Han Dynasty, 57.
- Chinese astronomy, 6, 33-40, 274.
- calendar, 34-40.
 - fundamental characteristics, 33.
 - observatories, 38-39.
- Chinese calendar, 33-40, 174, 276.
- intercalary month, 35.
 - luni-solar, 34.
 - Shuo*, 35 36.
 - solar, 35.
 - synodic months, 35.
 - system, 276.
- Circumference of the earth, 205.
- Clay tablets of the Babylonians, 63, 259.
- Comet, 109, 258, 266.
- names, 110.
- Cometary-motions, 109.
- path, 110.
 - period of disappearance, 110.

- Compasses, 191.
- Computation of planetary positions, 4.
- Confucian, Buddhist and Islamic Calendrical offices & schools, 136.
- Constellations, 10.
 - Argo Navis, 10.
 - Canis Major, 10.
 - Great Bear, 10.
 - investigations, 10, 65-69.
 - Orion, 10.
 - Saptarsi*, 10.
 - Sirius, 10.
- Cosmography of al-Quazwīnī, 154.
- Cosmological investigations, 65-66.
 - Aristotelian, 67.
 - Babylonian, 66.
 - Hellenistic, 69.
 - Ionians, 65.
 - Indian, 66.
 - Persian, 66.
 - Zoroastrian, 66.
- Counter-earth, 66.
- Crab Nebula, 265, 274.
- Cufic star table, 227, 231.
- Dastur* instruments, 215.
- Day table, 169.
- Declination (*mayl*), 185.
 - Circle, 186.
- Drkksepa-jya*, 197, 200.
- Eclipses, 235, 255-256.
- Ecliptic (*udaya-lagna*), 197.
- Elements, 210.
- Eliptic system, 249.
- Ephemeris time, 256.
- Epicycle, 205.
 - device, 273.
 - diameter, 203.
- Equation of time, 203, 204.
- Equatorial epicycle, 177.
- Equinoctical midday hypotenuse, 193.
- Fang Chi* (provincial histories), 253.
- Ghaṭika* (clepsydra), 191.
- Geographic latitude, 229.
- Geometrical models, 238.
- Ghayat-i mayl* (obliquity of the ecliptic), 186.
- Globe of Bylice, 165.
- Great Astrolabe of Jaipur, 229.
- Greek astronomy, 4, 273.
 - geometrical formulation, 33.
 - links, 63-72.
- Greek tables, 275.
- Guest star of 1054 A.D., 265.
 - AD1408 and CTB80, 266-267.
- Guest Stars, 257.
- Halley's Comet, 111-112, 258.
- Han Dynasty, 266.
- Hayyana* (year), 11.
- Heaven mandate theory (astrology in China), 37.
- Heliacal apparitions of stars, 242, 243, 245, 246, 247.
 - culminations, 245.
- Hipparchus theory
 - for the Sun, 72.
 - lunar theory, 73.
- Hissah* (argument), 188.
- Historic records, 265.
- Horizontal refraction, 31.
- Horoscopic astrology, 68.
- Hsiu*, 276.
- Indian astronomy, 4, 9, 97-107.
 - decimal system, 4.
 - meridians of reference, 97-107.
 - main achievements, 19.
 - planetary models, 5.
 - post-vedic, 14.
 - vedic, 9.
- Indian Calendars
 - amanta* lunar, 93-94.
 - five yearly, 85, 91.
 - luni-solar, 85.
 - purnimanta* lunar, 94.
 - solar, 92-93.
 - suryasiddhanta*, 91-95.
 - ve daṅga*, 91.
- Indian circle, 222.
 - mean longitudes, 97-107.
 - tables, 275.
- Indo-Malay culture, 241.
- Ionians, 64-65.
- Islamic astronomy, 274.
- Jai Prakāsa, 234.
- Jai Singh observatories, 275.
- Jaipur Jantar Mantar, 234.
 - yantra, 234.
- Javanese *bencet*, 243.
 - constellations, 250.

- Julian years, 177.
Jya, 209.
 Kai Yuan Zhan Jing, 55.
Kalpa, 77.
Karkata (Compasses), 191.
Ketus (Comets), 10, 109-112.
Krttika, 23, 24, 29-30.
 Lahore astrolabists, 275.
 Latitude and the obliquity of
 the ecliptic, 275.
 Latitude Circle, 186.
 Longitude of the moon, 235.
 -Alexandria, 104.
 -the Sun's apogee, 173.
 Longitudes - error, 171.
 -Indian mean, 97, 171.
 -of apogee, 121.
 -planets, 16, 97, 171.
 -Moon, 97.
 -tropical, 98.
 Lunar-calendars, 147, 245.
 -correction, 204.
 -crescent, 147.
 -date sine work, 148.
 -diurnal separation, 148.
 -eclipses, 205, 257.
 -evection, 19, 87.
 -Mansions - tables of
 Babylonian astronomers, 70.
 -Mansions, 128-129 (see
 also *nakṣatras*).
 -Mansions, 276.
 -motion - relating to
 apogee, 171.
 -motion-relating to star, 171.
 -motion-relating to Sun, 171.
 -solar, 245.
 -variation, 19, 87.
 -visibility, 148.
 -years - 30 years, 170.
 -years - 1440 years, 170.
 Mādhava's rule, 197, 198, 200.
Madhya-lagna (meridian-
 ecliptic point), 197.
Mahāyuga, 78, 114-115.
Manda Correction, 119-120.
Mandaphala, 120, 122.
Mandocca (longitude of apogee,
 121-122.
Manwantara, 77.
Marāgha school, 180, 204, 205,
 206, 238.
 Masonry instruments, 233-240.
 Mataram Kingdom, 249.
 Maunder Minimum, 254, 262.
 Mean anomalies, 204.
 Mean Sidereal longitudes, 98.
 Medieval Minor minimum, 262.
 Meridian-ecliptic point (*madhya-
 lagna*), 197.
 Mesopotamia, 4, 68.
 Metal instruments, 233.
 Meteor, 46.
 Method of Least Squares, 98-100.
 Metonic period of 19 Solar years,
 66.
 Milky way, 250.
 Month-intercalary (*adhimāsa*), 12.
 Month-syodic (*grahacara*), 12, 15, 35.
 Month-table, 169.
 Moonset lag-Babylonian crite-
 rion, 147.
 Moorish astrolabe, 227.
 Motion of planets relating to
 Sun, 172.
Mrga (Orion), 10.
Mrgayyadha (Sirius), 10.
Mugni theorem, 212.
Muhurta, 11, 30.
 Musical ratios of the orbs, 205.
Naḍivalaya, 234.
 Naked-eye sunspot report, 254.
Nakṣatra (asterism), 10, 23, 25, 276.
Nakṣatra list, 10, 129-130.
 -(the Indian lunar
 mansions), 276.
 New star, 265.
Nicocca rekha (apseline),
 119-120.
 Night-time observations-sidereal,
 104.
Nirayana, 91.
 Nonagesimal (*tribhona-lagna*), 197.
 Nova Cygni 1975, 266.
 -supernovae and comets, 253,
 257-258.
 Number, 3.
 Obliquity of the ecliptic, 178,
 186.
 Observations, 215.

- Optimum - meridian,97.
 -year,97.
 Oriental Astronomy,3,273.
 Orion's belt,250.
 Padas,15.
 Palakārṇa,193.
 Parabolic function,135.
 -interpolation,274.
 Philosophy of science,273.
Phing Chao (floating difference),40.
 Place value number system,3.
 Planet-Gods,128.
 Planetary
 -conjunction,19.
 -models,5.
 -parameters,101,175.
 -positions,275.
 -revolutions,116,118.
 -theories,70,113-122,274.
 -theories-Hellenistic,70.
 Pole of the ecliptic,205.
 Poles,249.
 Position of the apogee,238.
 Positional observations,274.
Pranotomongso,249.
 Precession of the equinoxes,175.
 Principle of motion,238.
 -uniform circularity,6.
 Provençal language,227.
 Ptolemaic equant,273.
 -lunar parameters,275.
 Ptolemy's
 -catalogue of stars,
 178,237.
 -equant,273
 -lunar parameters,275.
 Pulsar,265.
 Pythagoreans,6.
 Qianlong (water clock of Qing
 Dynasty),60.
 Quadrants,215.
Rāhu,17.
 Rāma Yantra,234.
Rāsi cakra,92.
 Reference system,249.
 Regression of nodes,171.
 Reign of Antoninus (137 A.D.),
 178.
 Ri Zhong Wu,51.
 Right ascensions,178.
Rkṣas (Great and Little Bear),10.
 Rotation of the earth,98,256.
Sāyana,91.
Ṣaḍaha (six-day week),10.
 Sagittarius cloud,250.
Sama (year),11.
Samkrānti,92.
 Samraṭa Yantra,235.
 Saṅku (gnomon),191.
 Sanskrit canons,97-107.
Saptaha (seven-day week),10.
Ṣaṣṭhāmsā (meridian dial
 with aperture),233,235.
 Sexagesimal system,4.
 Sextants and octants,215.
 Shadow tables,5.
 Shen Kuo (water clock of Song
 Dynasty),60.
Śighra parivrta, 120-121.
Siddhantic period,86.
 Sideral
 -longitudes,98,175.
 -lunar,245.
 -periods,86,88.
 -revolutions,18.
Śigra Correction,120-121.
 Silk Road,274.
Sindhind,176.
 Sine cosine tangent and cotan-
 gent,209.
 -function,5.
 -instruments,215.
 -of zenith distance,197.
 Solar & Lunar eclipses,256.
 -apogee precession trepidation,
 176.
 -calendar,227.
 -Corona,53.
 -eclipses,253.
 -equation,176.
 -Flares,53.
 -gnomons,242.
 -model,175.
 -motion relative to the
 Vernal equinox,170.
 -phenomenon,51.
 -table,135.
 -visibility,253.
 Southern course,25.
 Spherical triangle,187.
 Spörer minimum,262.

- Standard calendar,95.
 Star names - Arabic,153.
 Stars falling like rain,44.
 Stone instruments,275.
 Summer solstice,25.
 Sun worship,51.
 Sun-moon-dial,227.
 Sundials,215.
 Sudines - lunar tables,70.
 Sunspot,41 51.
 -cycle,262.
 -records,261-264.
 Supernova,265.
 -AD 1572,265.
 -of 1054 A.D.,274.
 -remnant,265.
Suwar alat-i rasadi,216.
Svadrkṣepa,200.
 Synodic months,35.
 -periods,17,86,88.
 -period error of,172.
 -phenomena,68.
 Table of Chords,209.
 -radices,176.
Tagih,250.
 Terrestrial dynamic time,98.
 Theories of Venus and Mercury,205.
 Tibet,274.
Toldean tables,175.
 Transmission problems,273,274.
 Tree-rings,254.
 Trepidation,176.
 -theory,177.
Tribhona-lagna (nonagesimal),197.
 Trigonometry,209.
 Tropic of Capricorn,227.
 Tropical-longitude,99,176.
 -accuracy,174.
 -year,176.
 Turiya Yantra,233.
Udaya-lagna (ecliptic),197.
Utkramajya (versed sine),209.
 Variable rotation of the earth,253.
 Visibility of the moon,235.
 Zodiacal signs,227.