

# Notation

## Magnitudes

|                 |                                                                                   |
|-----------------|-----------------------------------------------------------------------------------|
| $r$             | radius of epicycle                                                                |
| $R$             | radius of (homocentric or eccentric) deferent                                     |
| $\rho$          | distance between the Earth and the epicycle center                                |
| $e$             | eccentricity                                                                      |
| $\lambda$       | longitude (in true motion)                                                        |
| $\lambda_m$     | longitude in mean motion                                                          |
| $\lambda_c$     | longitude of the epicycle center                                                  |
| $\beta$         | latitude                                                                          |
| $\alpha$        | ascension                                                                         |
| $\delta$        | declination                                                                       |
| $h$             | 1. altitude, 2. <i>arcus visionis</i>                                             |
| $a$             | anomaly                                                                           |
| $a_v$           | anomaly in true motion                                                            |
| $a_m$           | anomaly in mean motion                                                            |
| $\omega$        | angular velocity                                                                  |
| $\omega_t$      | angular velocity in longitude                                                     |
| $\omega_a$      | angular velocity in anomaly                                                       |
| $\omega_d$      | angular velocity in latitude                                                      |
| $\omega_s$      | angular velocity in elongation                                                    |
| $p(a)$          | equation of anomaly                                                               |
| $c$             | angular distance between the apogee of the deferent and the epicycle center       |
| $S_r$           | retrograde arc on the epicycle                                                    |
| $T$             | period                                                                            |
| $T_t$           | period of return in longitude                                                     |
| $T_a$           | period of return in anomaly                                                       |
| $T_d$           | period of return in latitude                                                      |
| $T_s$           | synodic period                                                                    |
| $T_f$           | sidereal period                                                                   |
| $t$             | time                                                                              |
| $\Delta$        | difference                                                                        |
| $\Delta t$      | time interval                                                                     |
| $\Delta\lambda$ | 1. difference in longitude, 2. elongation between the Sun and some celestial body |
| $d$             | diameter                                                                          |
| $L$             | length of the circle                                                              |
| $S$             | relative linear distance                                                          |
| $D$             | absolute linear distance                                                          |
| $A$             | apogee                                                                            |
| $A_v$           | true (verso) apogee                                                               |
| $A_m$           | mean apogee                                                                       |
| $\Pi$           | perigee                                                                           |
| $\Pi_v$         | true (verso) perigee                                                              |
| $\Pi_m$         | mean perigee                                                                      |
| $n.l.$          | northern limit                                                                    |

|               |                                   |
|---------------|-----------------------------------|
| $s. l.$       | southern limit                    |
| $V$           | volume                            |
| $\varphi$     | geographical latitude             |
| $p$           | parallax                          |
| $z$           | apparent zenith distance          |
| $z'$          | true (geocentric) zenith distance |
| $\varepsilon$ | obliquity of the ecliptic         |

**Units of measurement**

|       |                                       |
|-------|---------------------------------------|
| $r_e$ | Earth radius (for absolute distances) |
| $p$   | part (for relative distances)         |
| $y$   | year                                  |
| $d$   | day                                   |
| $h$   | hour                                  |