

345(3) : Recalculation of Note 345(2)

In note 345(2) the earth's Lense Thirring precession was found to be:

$$\Omega = 5.570 \times 10^{-15} \text{ rad s}^{-1} - (1)$$

This must be converted to radians per year, using:

$$\begin{aligned} 1 \text{ year} &= 365.25 \times 3600 \times 24 \text{ seconds} \\ &= 3.1558 \times 10^7 \text{ secs.} - (2) \end{aligned}$$

So

$$\begin{aligned} \Omega &= 3.1558 \times 5.570 \times 10^{-8} - (3) \\ &= 1.758 \times 10^{-7} \text{ radians per year} \end{aligned}$$

Now use:

$$1 \text{ radian} = 2.06271 \times 10^5 \text{ arcseconds} - (4)$$

So

$$\begin{aligned} \Omega &= 2.06271 \times 1.758 \times 10^{-2} - (5) \\ &= 3.63 \times 10^{-2} \text{ arcseconds per year} \end{aligned}$$

So

$$\begin{aligned} \Omega &= 36.3 \text{ milliarcsseconds per year} \\ \Omega(\text{exp}) &= 40.9 \text{ milliarcsseconds per year} \end{aligned}$$

- (6)