

56.2: Radius of the Earth

There is a useful formula that gives the radius of the Earth R at any latitude ϕ :

$$R(\phi) = \sqrt{\frac{(a^2 \cos \phi)^2 + (b^2 \sin \phi)^2}{(a \cos \phi)^2 + (b \sin \phi)^2}} \quad (56.2.1)$$

where, as before, the equatorial radius $a = 6378.1370$ km, and the polar radius $b = a(1 - f) = 6356.7523142$ km (WGS 84).

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