

CONVERSION FORMULAE

Equations for converting hour angle and declination to azimuth and altitude, and vice versa, where ϕ = latitude, A = azimuth, a = altitude, h = hour angle, δ = declination.

$$\begin{aligned}
 \cos a \sin A &= -\cos \delta \sin h \\
 \cos a \cos A &= \sin \delta \cos \phi - \cos \delta \sin \phi \cos h \\
 \sin a &= \sin \delta \sin \phi + \cos \delta \cos \phi \cos h \\
 \cos \delta \sin h &= -\cos a \sin A \\
 \cos \delta \cos h &= \sin a \cos \phi - \cos a \sin \phi \cos A \\
 \sin \delta &= \sin a \sin \phi + \cos a \cos \phi \cos A
 \end{aligned}$$

TELESCOPE DATA

Resolving power (Rayleigh limit) = $138/D$ arc seconds

Resolving power (Dawes limit) = $116/D$ arc seconds

Theoretical visual limiting magnitude (optical system 100% efficient) = $2 + 5 \log_{10} D$

In practice, it is likely that the constant 2 in the above equation could be replaced by a value between 3 and 4, particularly when higher magnifications are used.

(where D = diameter of aperture in millimetres)

GREEK ALPHABET

α alpha	β beta	γ gamma
δ delta	ϵ epsilon	ζ zeta
η eta	θ theta	ι iota
κ kappa	λ lamda	μ mu
ν nu	ξ xi	\omicron omicron
π pi	ρ rho	σ sigma
τ tau	υ upsilon	ϕ phi
χ chi	ψ psi	ω omega