

9.1 Introduction

Many of the formulas associated with astronomy and astrophysics are either too specialised for a general work such as this or are common to other fields and can therefore be found elsewhere in this book. The following section includes many of the relationships that fall into neither of these categories, including equations to convert between various astronomical coordinate systems and some basic formulas associated with cosmology.

Exceptionally, this section also includes data on the Sun, Earth, Moon, and planets. Observational astrophysics remains a largely inexact science, and parameters of these (and other) bodies are often used as approximate base units in measurements. For example, the masses of stars and galaxies are frequently quoted as multiples of the mass of the Sun ($1M_{\odot} = 1.989 \times 10^{30} \text{ kg}$), extra-solar system planets in terms of the mass of Jupiter, and so on. Astronomers seem to find it particularly difficult to drop arcane units and conventions, resulting in a profusion of measures and nomenclatures throughout the subject. However, the convention of using suitable astronomical objects in this way is both useful and widely accepted.