



星际弥散带与星际消光

Diffuse Interstellar Bands vs. Interstellar Extinction

F.Y. Xiang, Aigen Li and J.X. Zhong
(University of Missouri/Xiangtan University)

The diffuse interstellar bands (DIBs) are ubiquitous absorption spectral features arising from the interstellar medium (ISM). Since their first detection nine decades ago, over 600 DIBs have been observed in the visible and near-infrared wavelength range in both the Milky Way and external galaxies, both nearby and distant. However, the identity of the species responsible for these bands remains as one of the most enigmatic mysteries in astrophysics. An equally mysterious interstellar spectral signature is the 217.5 nm extinction bump, the strongest absorption feature observed in the ISM. Its carrier also remains unclear since its first detection nearly half a century ago.

We explore the possible relations between these two mysterious interstellar phenomena and try to place constraints on the properties of their enigmatic carriers. We will also examine the relation between the far ultraviolet extinction and the DIBs. What would be the best way to characterize the far ultraviolet extinction -- the steepness of the far ultraviolet extinction rise, the total amount of far ultraviolet extinction, the color excess in the far ultraviolet, or the total amount far ultraviolet extinction integrated with inverse wavelength, will be discussed.

