

Understanding the diffuse radiation field at the Galactic Poles.

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We have used GALEX observations of the north and south Galactic poles to study the diffuse ultraviolet background at locations where the Galactic light is expected to be at a minimum. We find offsets of 230–290 photon units in the far-UV (1531 Å) and 480–580 photon units in the near-UV (2361 Å). Of this, approximately 120 photon units can be ascribed to dust-scattered light and another 110 photon units (190 in the near-UV) to extragalactic radiation. The remaining radiation is, as yet, unidentified and amounts to 120–180 photon units in the far-UV and 300–400 photon units in the near-UV. We find that molecular hydrogen fluorescence contributes to the far-UV when the 100 μm surface brightness is greater than 1.08 MJy sr<sup>-1</sup>.

I will discuss these observations and further observations of a high latitude cirrus cloud. I will describe our dust scattering model and the modifications we are making to understand the diffuse radiation. Historically, this has been one of the most useful methods of understanding interstellar dust and I will show that developing models to understand the diffuse emission in the UV and in the IR are important and feasible.