Abstract

We present results from a NASA/JHU sounding rocket mission (36.198 UG) during which we acquired a longslit spectrum of the reflection nebula IC 405 in the 900-1400 Å wavelength region. Several pointings within the nebula were obtained, including a high-quality (SN = 10-15) at 990 Å spectrum of the central part of the nebula. Observations of the nebula reveal a surface brightness that is similar to those in stars for two orders of magnitude greater than the blue in our bandpass. This is in contrast with the relative flux for dust-scattered light observed during a preceding rocket observation of the reflection nebula NGC 3237.

Several possibilities have been suggested to explain the blue tint that is exhibited in IC 405. Diffuse extinction within the nebula, such as a particular clump of dust near the line of sight, is one possible explanation. Unresolved fluorescent molecular hydrogen emission in another possible explanation. Modeling of the dust-scattered light, similar to that of Burgh et al. 2002, has been compared to the data and results will be discussed. We will explore the possibility of differential extinction with observing positions to measure the dust-scattered light spectrum in IC 405. Preliminary results are presented.

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