

[7IM-09] Far Ultraviolet Observations of the  $\zeta$  Ophiuchi HII region

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The star  $\zeta$  Ophiuchi (HD 149757) is one of the brightest massive stars in the northern hemisphere and was widely studied in various wavelength domains. We report the analysis results of far ultraviolet (FUV) observations with other wavelengths for around  $\zeta$  Ophiuchi. We study the correlation of between multi wavelength observations. We have developed a Monte Carlo code that simulates dust scattering of light including multiple encounters. The code is applied to the present Oph HII region to obtain the geometrical information of dust such as distance and thickness. Also We apply three-dimensional photoionization code to model Wisconsin Ha Mapper observations of the H II region surrounding the star.

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[7IM-10] A Study on the Structure of the Dust Cloud Around  $\lambda$ -Orionis

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The dust cloud around  $\lambda$ -Orionis is seen to be circular symmetric with the large angular extent ( $\sim 8^\circ$ ). However, whether the three dimensional structure of the cloud is shell or torus ring is not yet fully resolved. We studied the structure of the dust cloud using a three-dimensional Monte-Carlo simulation code, MoCafe (Monte Carlo radiative transfer). The dust density structure of the cloud was inferred based on the star-count method. We assumed that the cloud is a spherical shell or a torus ring and calculated the radial profiles of scattered light originating from a central OB association. Comparison of the results with the S2/68 ultraviolet observations indicates that the cloud is a spherical shell. We also compared the  $A_v$  map around  $\lambda$ -Orionis with the optical depth obtained based on the star-count.