Dust properties from GALEX observations of a UV halo around Spica

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GALEX has detected ultraviolet halos extending as far as 5° around four bright stars (Murthy et al. (2011)). These halos are produced by scattering of starlight by dust grains in thin forground clouds that are not physically associated with the star. Such halos are useful in constraining the dust optical constants like the albedo (a) and phase function asymmetry parameter (g). Assuming a simple model consisting of a single layer of dust in front of the star, Murthy et al. (2011) have been able to constrain the value of g to 0.58 ± 0.12 in the FUV and 0.72 ± 0.06 in the NUV. However due to the uncertainty in the dust geometry they could not constrain the albedo. In this work we have attempted to constrain the two dust parameters (a and g) for dust in front of Spica by assuming the dust to be in two or more layers at different distances and densities.