# A New Diagnostic of the Radial Density Structure of Be Disks

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We analyze the intrinsic polarization of two classical Be stars in the process of losing their circumstellar disks via a Be to normal B star transition originally reported by Wisniewski et al. During each of five polarimetric outbursts which interrupt these disk-loss events, we find that the ratio of the polarization across the Balmer jump (BJ+/BJ-) versus the V-band polarization traces a distinct loop structure as a function of time. Since the polarization change across the Balmer jump is a tracer of the innermost disk density whereas the V-band polarization is a tracer of the total scattering mass of the disk, we suggest such correlated loop structures in Balmer jump-V band polarization diagrams (BJV diagragms) provide a unique diagnostic of the radial distribution of mass within Be disks. We use the 3-D Monte Carlo radiation transfer code HDUST to reproduce the observed clockwise loops simply by turning ``on/off'' the mass decretion from the disk. We speculate that counter-clockwise loop structures we observe in BJV diagrams might be caused by the mass decretion rate changing between subsequent ``on/off'' sequences. Applying this new diagnostic to a larger sample of Be disk systems will provide insight into the time-dependent nature of each system's stellar decretion rate.

Reference: ApJL, in press
Status: Manuscript has been accepted

Weblink: http://adsabs.harvard.edu/abs/2011arXiv1101.3571D

Comments:

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