

N11b Optical and NIR Polarimetric Monitoring of AA Tau in 2014-2017

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AA Tau is a classical T Tauri star. It irregularly shows short declining events, which could be explained by occultation due to the inhomogeneous circumstellar medium. In 2011, AA Tau suddenly faded and the optical magnitude at its bright state became 2 magnitudes fainter in V-band compared with the previous 20 years. To investigate the geometry of its circumstellar medium, we have performed polarimetric monitoring of AA Tau since 2014 with HONIR (Hiroshima Optical and Near-InfraRed camera) attached to the 1.5m Kanata telescope. AA Tau shows a tendency of larger polarization in fainter and redder phases, which is consistent with the past polarimetric observations in 2002 (Menard et al. 2003). The observed polarization roughly consists of a wavelength-independent component and a wavelength-dependent component, both of which show time variability. The latter component has larger degree of polarization at shorter wavelength and its position angle is almost constant to $\sim 60^\circ$ – 70° .