

P103a Near-infrared Circular Polarization Survey in Star-forming Regions: 3

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Polarimetry is a crucial tool for studying the physical processes in the interstellar medium, including star-forming regions. Especially, circular polarization (CP) is an important astronomical tool not only to study circumstellar structures but also to act as a potential surface biosignature on (exo)planets. We have been conducting a systematic near-infrared CP survey in star-forming regions, covering high-mass, intermediate-mass, using the SIRPOL imaging polarimeter on the Infrared Survey Facility 1.4 m telescope at the South African Astronomical Observatory. In our previous studies, the results have showed for the first time the universality of CP in star and planet forming regions. In this presentation, we show our new near-infrared imaging circular polarimetry results detected from Mon R2 and GGD 27, combined with linearly polarimetric results. The results that we found are consistent with dichroic extinction mechanisms generating the high degrees of CP in star forming regions.