

Abstract Submitted
for the TSF14 Meeting of
The American Physical Society

Large Field Polarimetry Measurements using the Texas A&M Observatory FEDJA KADRIBASIC, Graduate Student, LIFAN WANG, Professor — With the announcement that the BICEP2 polarization signal is due to Milky Way dust instead of the Big Bang, there has been a keen interest recently in properly calibrating for Milky Way dust polarization. At the Texas A&M Observatory, we have installed a wide-field telescope to measure the polarization of large parts of the sky as a pilot for a long-term project using the 0.8 m telescope at McDonald Observatory with a similar field of view and higher light-gathering power. The telescope is a 110 mm William Optics FLT-110 apochromatic refractor with a ~ 1 degree field of view that has three optical polarizers at 60 degree intervals and an SBIG ST-8/8E/8XE camera to take data. By recording the polarizations of many galaxies, we can make a polarization map to correct for changes in shear that could be caused by the Milky Way dust. This is especially important since several large galaxy surveys, such as SDSS and DES, coming online need to make precise gravitational shear measurements to measure dark matter content. With this newfound data, we aim to better address the scientific goals of projects relying on polarimetry, such as BICEP, or that may need to take it into account, such as SDSS and DES, in the hopes of learning more about our Universe through the lens of a polarizer.

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Date submitted: 02 Oct 2014

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