

Preliminary Faraday Rotation Results Associated with the Photoionized Gas of IC 1396

Saturday, 21 January 2023 16:30 (1h 30m)

We present initial Faraday rotation measurements of extragalactic radio sources with lines of sight passing through or near to the HII region of IC 1396. We measured the linear polarization of the sources with the Karl G. Jansky Very Large Array (VLA) at frequencies of ~ 5 GHz (6 cm). We estimate the background rotation measure (RM) in this region of the galaxy to be ~ -140 m^{-2} . We find the sources having lines of sight passing through IC 1396 have an excess rotation measure of $|\text{RM}| \sim 62\text{-}465$ rad m^{-2} with respect to the background. We will discuss rotation measure values in the context of magnetized plasma of IC 1396. We compare our results to known models of rotation measure in our galaxy.

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Session Classification: Poster Session + Grad/Career Fair