***Relation between Intensity Contrast and Magnetic Field for Active and Quiet Regions Observed on the Solar Photosphere***

*Taylor Whitney[1], **Serena Criscuoli** [2] [scriscuo@nso.edu], and Aimee Norton[3]*

[1] *University of Nebraska, National Solar Observatory, Lincoln, NE, USA*
[2] *AURA – National Solar Observatory, Boulder, CO, USA*
[3] *W. W. Hansen Experimental Physics Laboratory, Stanford University, Stanford, CA, USA*

Recent high spatial resolution observations and simulations indicate that radiative properties of magnetic elements depend not only on their size and magnetic field intensity, but also on the properties of the plasma that surround them. Such simulations and observations are typically limited to few line-of-sights.

Some irradiance reconstruction techniques rely on the relation magnetic field intensity – intensity contrast to identify magnetic features and model their radiative contribution. Therefore, understanding the center-to-limb variation of these different radiative properties and, eventually, whether and how they change with the magnetic activity cycle, can improve our capability to model solar irradiance. In this work we analyze full-disk Helioseismic and Magnetic Imager (HMI) data products obtained at the 6173 Å spectral range and corrected for scattered light in order to investigate the different radiative properties of magnetic features observed in Quiet and Active Regions at various positions over the solar disk. In agreement with high spatial resolution observations and simulation we find that, at all positions on the solar-disk, magnetic elements located in quiet regions are characterized by higher photometric contrast than magnetic elements located in active regions and that these latter present negative contrast close to disk center.