SDO helps measure magnetic fields on the sun's surface
20 January 2012, By Karen C. Fox

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HMI relies on interpreting the way light is affected as it travels through the fields in order to measure them from afar. For example, a phenomenon known as the Zeeman effect splits light into different wavelengths based on the magnetic field strength and, in addition, light may be polarized based on the magnetic field direction. HMI uses these observations to produce vector magnetograms. Producing vector magnetograms at HMI's high resolution, however, required developing new computer processing techniques to successfully interpret subtle details about the magnetic field.

In early December, the HMI team released their vector magnetograms for one area of the sun, named Active Region 11158, collected during February 12-16, 2011. As a larger group of researchers examines the new data, the team can refine their computer processing algorithms if necessary and then release all the vector magnetic field data that HMI has collected.

More information: For more information about the Solar Dynamics Observatory, visit: www.nasa.gov/sdo

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