

OzSDO: the first database for the Solar Dynamics Observatory in the Southern hemisphere

NASA's Solar Dynamics Observatory (SDO), launched in 2010, is a monitoring mission capturing full disk images of the Sun at a number of wavelengths with unprecedented spatial and temporal resolution. The SDO has generated an enormous amount of data over its operational lifetime, making it necessary to store the data in a searchable database for efficient access. We have established the Australian Data Centre for SDO (OzSDO) a NetDRMS installation to archive and distribute data from the AIA and HMI instruments. The OzSDO primarily acts as a mirror for individual data series from the central SDO Joint Science Operations Center repository at Stanford. It currently contains the full meta-data for each of the HMI data series hmi.m_45s, hmi.v_45s, hmi.ic_45s, hmi.sharp_cea_720s, and aia.lev1, as well as the images for selected time periods under analysis. The hardware and infrastructure for the database is hosted at Australian Astronomical Optics Data Central at Macquarie University, and currently consists of a data server with 2 Intel Xeon Gold CPUs (32 cores), 128GB RAM, 20TB RAID5 HDD connected to a 216TB data array and a compute server with two 3.1GHz Intel Xeon Gold CPUs (32 cores total), 512GB memory, and an additional 3.8TB SSD local storage. Access to the OzSDO is available to researchers in the Centre for Solar and Space Physics group at the University of Newcastle (Australia), and externally upon request.

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