IRIS Data Processing

IRIS data processing leverages the heritage infrastructure developed for SDO and Hinode. Raw science data flows from the MOC to JSOC. The science telemetry is archived, with a copy exported to the backup site at LMSAL. After receipt from the MOC, the telemetry is converted into Level 0 image files. The images are flipped and rotated to a common orientation and all required keywords are populated to produce Level 1 data. This constitutes the lowest level of scientifically-useful data. Darks and pedestal offsets and overscan rows are removed, flat-fielding corrections for telescope and CCD properties are applied and cosmic ray spikes removed to generate Level 1.5. In addition, geometric and wavelength corrections are applied so all images are mapped to a common spatial plate scale and an “ideal” CCD.

Levels 2 and 3 will be generated at LMSAL using Level 1.5 data. They are reorganized data for analysis using tools. We anticipate that these are the data products that will be most widely used. As calibration procedures improve, these may be regenerated as appropriate.

Browse products are generated from Level 3 images. HCR products are derived from the planned operations and the resulting data and are recorded in the Heliophysics Coverage Registry that is part of the Heliophysics Event Knowledgebase.

IRIS Data distribution

Data from IRIS will be made available to the community through several paths. Level 1 data will be available directly from the JSOC using the same procedures as developed for SDO. These data will be a published series that is either available through the JSOC subscription mechanisms or through the lookdata web interface. Data series containing calibration information (flat fields, throughput tables, etc) will also be available through these channels.

Higher level data products will be made available through the IRIS website (iris.lmsal.com) in a manner similar to Hinode, TRACE and the AIA cutout web services. Higher level descriptions of the data products will be maintained within the Heliophysics Coverage Registry and solar events associated with these data products will be captured within the Heliophysics Event Registry. Level 2 and 3 (as well as Level 1 via JSOC) data products may also be mirrored to our partner institutions (GSFC/SDAC, Oslo/Hinode) where they may also made available.
IRIS data will be available via the Virtual Solar Observatory through a variety of avenues, as described in Technical Note 13.