How to be a *Hinode* User

Tetsuya Watanabe
(NAOJ)

- Be an Instruments' Chief Observer
  ← ref. Data Policy

- Propose Your Own Observation
  ← ref. Call for Collaborations
  ← ref. List of HOP
  (Hinode joint Operation Planning)

- Data: open on 27-May-07
  ← ref. Data Policy

3rd SWG – November 12, 2005

- **Data Policy** The Hinode Team agreed to the following approach to the release of the scientific data from the three instruments. The policy is as follows: The international members of the Hinode team have adopted the following approach to the release of the data from the three Hinode instruments.
- The observations recorded during the first six months of operations, which includes the commissioning phase and initial operations, will be released at the end of six months. This period of restricted data release is designed to allow the three instrument teams adequate time to implement and test the data processing and dissemination systems. During this period it is anticipated that limited blocks of data will be released to provide the wider scientific community with an opportunity to interface with the database and to provide feedback to the Hinode team prior to the full release of data.
- After the first six months all observations will be made available to the scientific community as soon as they are received and processed at ISAS.
- Japanese students, who have operational responsibilities, will be provided limited protection for the data that are assigned to use for their PhD thesis topic. This does not restrict the use of the data by other scientists but relies on the user (Gentlemen's Agreement) to check with either the student or his advisor to ensure that their use of the data does not directly conflict with the student's work. It is hoped that a side benefit of this process is that it will create contacts between the student and other scientists interested in similar topics.

This policy was approved by the Hinode Science Working Group on November 12, 2005.

Call for Collaborations with Hinode

December 12, 2006

- By April 2007 the Initial Observing Phase of Hinode (Solar-B), a joint JAXA/NASA/UK mission, will be complete. At or about this time all the science data from the mission will be made available to the community as will all new data as it is received.
- To broaden community involvement in the Hinode mission the science team is offering the opportunity to participate in the definition and development of the observing program. This can take the form of either collaborative investigations with other ground or space based observatories or a request for a set of observational sequences to meet a specific scientific objective formulated by the requestor. To facilitate this program the Hinode team has created a group of seven Scientific Schedule Coordinators (SSCs) to both review requests and assist requestors in preparing their plans. It is the policy of the Hinode Science Working Group that all observing requests that are consistent with the objectives of Hinode will be accepted. However it is strongly recommended that individuals discuss their proposed observations with one of the SSCs before preparing and formally submitting their request to ensure that their proposed observations are not already part of the core team's program. Please note that having your observation program selected and implemented does NOT entitle you to exclusive use of the data. The Hinode open data policy applies to all data. Where the observation program involves more than one instrument, the requestor should contact an SSC associated with his primary instrument.

- Planning for Hinode operations is performed on a three month cycle that is updated monthly. At the end of every month a meeting is held to confirm the observations for the coming month and to lay out the broad objectives for the second and third months. The monthly plan provides guidance for the three instrument teams' Chief Observers who are responsible for preparing the daily observing plan. For example requests for observations received between the 15th of November and the 14th of December will be presented and discussed at the monthly meeting held at the end of December. (i.e. the cut-off for consideration is the 14th day of each month.) If approved the earliest opportunity for their inclusion into the observing plan would be March. Requesters should understand that although every effort will be made to perform their observations when requested the Hinode team does not and cannot guarantee when they will actually occur. It is particularly important for collaborators who have assigned time on ground based observatories to have their requests in well in advance.
- Hinode was designed with the intent of making simultaneous observations with three instruments in order to understand how changes in the photospheric magnetic field propagated upward through the various levels of the solar atmosphere. Collaborative observing programs using all the three instruments will be regarded favorably. However proposals whose emphasis is on the observations from only one or two of the three instruments are certainly not excluded.
- The requests are expected to be short - a maximum of three pages - and written in English. They should specify the science objective, how they expect to achieve the objective, provide an outline of the observations by one or more of the instruments and how long an observing period is required. Currently the XRT and EIS instruments have interactive web pages that allow scientists to plan their observations.

- APPENDIX A – The SSCs

- The SSCs and their e-mail addresses are shown below.

- **Chief Coordinators**
  John M. Davis (john.m.davis@nasa.gov);
  Tetsuya Watanabe (watanabe@uvlab.mtk.nao.ac.jp)

- **Scientific Schedule Coordinators – Instrument Specific**
- Solar Optical Telescope
  Tom Berger (berger@lmsal.com)
  Takashi Sekii (sekii@solar.mtk.nao.ac.jp)
- X-Ray Telescope
  Leon Golub (Golub@head.cfa.harvard.edu),
  Kiyoto Shibasaki (shibasaki@nro.nao.ac.jp)
- EUV Imaging Spectrometer
  Len Culhane (jlc@mssl.ucl.ac.uk),
  Tetsuya Watanabe (watanabe@uvlab.mtk.nao.ac.jp),
  John Mariska (mariska@nrl.navy.mil)

- APPENDIX B – Useful Websites

- The following websites provide descriptions of the scientific instruments.
  - SOT: http://solar-b.nao.ac.jp/sot_e/index_e.shtml
  - XRT: http://solar-b.nao.ac.jp/xrt_e/
  - EIS: http://www.mssl.ucl.ac.uk/www_solar/solarB/

- John M. Davis for the Hinode SSCs

Proposal

- Scientific objectives/justifications
- Outline of observation
- Observing period
- Requests for Hinode Instruments (SOT/XRT/EIS)
- Other participating instruments & facilities

SSCs Meeting & Monthly Meeting

- Monthly deadline for submission of proposal: 14th day of the month
- Science Schedule Coordinators' Meeting
  7am, Wed., 3rd week of the month (JST)
- Monthly Operation Meeting
  7am, Thr., 4th week of the month (JST)

List of HOP so far
-Hinode Observing Plans-

- HOP1: APL Solar Bolometric Imager (SBI) (SOT) PI: Bernasconi
- HOP2: Polar Region Observation Campaign (XRT) PI: Cirtain
- HOP3: Extended SUMER Campaign during April (EIS) PI: Curdt
- HOP4: Cordinated Campaign Observation with THEMIS
  HOP4a: Magnetic topology of the filament in the region PI: Schmieder
  HOP4b: Evolution, distribution and neutralization of electric currents in active regions PI: Aulanier
- HOP5: Irradiance Measurement Campaign in Feb/Mar (SOT)
- HOP6: Co-alignment Campaign PI: Shimizu
- HOP7: SoHO/CDS SOHO/UVCS Campaign PI: Delzanna
- HOP8: Stereoscopic Observation of Coronal Structures PI: Plunkett
- HOP9: Prominence Campaign with Dunn Telescope PI: Engvold
- HOP10: Joint Observation of the Solar Corona between Hinode EIS and NAOJ Norikura Observatory for non-thermal line broadening in the coronal emission PI: Hara, Suematsu, Ichimoto

EIS/SUMER campaign in April07

SOHO/HINODE science cases: (updates after March 19 marked in red)

(1) L. Teriaca, W. Curdt, G. Cauzzi, K. Reardon:
Spatial and temporal evolution of the temperature response of the solar atmosphere during VUV explosive events justification

Observe EE in Si IV 1394 emission (SUMER), check for hot component with EIS and XRT observational details

Target: Quiet Sun

Status: submitted; SUMER part ready

Contact: teriaca@mps.mpg.de

(2) D. Innes, W. Curdt, D. Tothova: What triggers Doppler Oscillation events and where does the trigger come from? justification

SOHO JOP104 heritage: Observe AR loops off limb with SUMER in Fe XIX 1118 emission and compare with HINODE/EIS and HINODE/ XRT observational details

Target: AR at the limb

Status: submitted, SUMER part ready

Contact: innes@mps.mpg.de

(3) M. Marsh, T. Kucera: MHD wave propagation justification

This observing program aims to investigate MHD wave propagation within the solar atmosphere, using high cadence co-spatial, co-temporal, multi-temperature spectroscopic and imaging observations. Combining spectroscopic and imaging using SOHO/SUMER and HINODE to investigate the structure and dynamics within atmospheric structures, particularly the transmission of photospheric p-modes from the photosphere to the corona within quiescent active region systems. The properties of these waves may then be related to the measured parameters of the atmosphere, such as flow velocity, magnetic field inclination, temperature, density and theoretical models. observational details

Complements study 19.

Target: AR loops near dsisk center

Status: advanced draft

Contact: mmarsh@pop600.gsfc.nasa.gov

(4) W. Curdt: Asymmetric versus symmetric heat input justification

Observe AR loops in Fe XX 721, Mg IX 706, and O III 703 (SUMER) and compare with XRT. Take movies with EIS in Fe XII 195 and Fe XXIV 192 observational details

Target: AR loops near disk center

Status: SUMER part ready, rest still draft

Contact: curdt@mps.mpg.de

(5) J. Fontenla, W. Curdt, E. Avrett: Quiet-Sun radiance distribution and UV variability justification

Obtain rasters with sufficient statistical quality in chromospheric and lower TR lines, and compare radiance histograms to atmospheric models. Compare with hires photospheric images and magnetograms observational details

Target: QS near disk centre

Status: draft

Contact: curdt@mps.mpg.de

(6) W. Curdt: Cooling of post-flare loops justification

Observe AR loop during a microflare in a wide temperature band (SUMER and EIS) and compare with XRT. observational details

Target: AR loops near disk centre

Status: submitted; SUMER part ready

Contact: curdt@mps.mpg.de

(7) K. Wilhelm: N_e and T_e diagnostic in polar plumes justification

Observe polar plumes in Ne VIII 770 (SUMER) and He II 256 (EIS), try to locate footpoint with SOT, compare with EUVI. observational details

Target: SUMER: polar plume / HINODE-EIS: pole and plume / HINODE-SOT: pole / STEREO-EUVI: pole and plume

Status: SUMER part ready, rest still draft

Contact: wilhelm@mps.mpg.de

(8) L. Teriaca, D. Banerjee, S.K. Solanki, D.S. Bloomfield, G. Gupta: Detection of waves in the solar atmosphere justification

Explore the possible roles of MHD waves and magnetic reconnection in heating coronal-hole plasma, in generating the fast solar wind and the role of polar plumes in this scenario observational details

Target: translimb polar cap

Status: advanced draft

Contact: teriaca@mps.mpg.de

(9) L. Teriaca, S.K. Solanki, W. Curdt: The average Doppler shift of coronal lines on quiet and active regions justification

Investigate the net Doppler flow of plasma emitting in coronal lines hotter than the Ne VIII 770. observational details

Target: Quiet sun or active region near disk centre.

Status: submitted; SUMER part ready;

Contact: teriaca@mps.mpg.de

(10) M.S. Madjarska, J.G. Doyle, W. Curdt, T. Wiegelmann: Small-scale transient flows in the quiet Sun and active regions justification

Complements the EIS study of Helen Mason

observational details

Target: QS and AR

Status: advanced draft

Contact: madjarska@mps.mpg.de

(11) M.S. Madjarska, L. Harra, T. Wiegelmann: Coronal hole boundaries evolution justification

observational details

Target: Coronal hole boundary

Status: advanced draft

Contact: madjarska@mps.mpg.de

(12) M. S. Madjarska, J.G. Doyle, J. Büchner: Coronal Bright Point plasma characteristics and evolution derived from Hinode (EIS/XRT/SOT) and SUMER simultaneous observations justification

observational details

Target: Bright point

Status: advanced draft

Contact: madjarska@mps.mpg.de

(13) D. Bewsher, R. Harrison, M.S. Madjarska: Dynamic events in the networkjustification

observational details

Target: QS network

Status: advanced draft

Contact: D.Bewsher@rl.ac.uk

(14) J.G. Doyle, D. Perez-Suarez , E. O'Shea: Oscillations in chromospheric and coronal bright points justification

observational details

Target: Bright point

Status: advanced draft

Contact: jgd@arm.ac.uk

(15) J.G. Doyle, S. Subramanian, E. O'Shea, M.S. Madjarska: Further insight into the spicules/blinker connection: a search for blinkers using EIS justification

observational details

Target: QS network, spicules

Status: advanced draft

Contact: jgd@arm.ac.uk

(16) J.G. Doyle, E. Scullion, E. O'Shea: Armagh explosive event study justification

observational details

Target: QS network

Status: advanced draft

Contact: jgd@arm.ac.uk

(17) D. Innes: Chromospheric heating in active regions justification

Observe activity and waves in active regions with HINODE and SOHO. observational details

Target: AR loops near disk centre

Status: submitted

Contact: innes@mps.mpg.de

(18) G.A.Doschek, E. Landi: Transition region T_e diagnostics justification

Maximum spectral information for active region structures observed on the disk observational details

Target: Both, AR and QS

Status: draft

Contact: george.doschek@nrl.navy.mil

(19) M. Marsh , T. Kucera, J. Noglik, R. Walsh: Active Region Loop Propagations: Coronal Loop Velocity Field justification

Investigate the dynamics of the plasma flow starting at photospheric layers and propagating through the TR into the corona, and particularly the coupling and its effect on MHD wave-modes and the geometry of the magnetic field.observational details

Complements study 3.

Target: Quiescent active region loops

Status: SUMER part draft; EIS part submitted

Contact: mmarsh@pop600.gsfc.nasa.gov

(20) S.K. Solanki, L. Teriaca, H. Peter, P. Kobel, A. Lagg, W. Curdt, S. Bloomfield: Centre-to-limb variation of active region and quiet Sun brightnessjustification

Observe with as high (but constant and immutable) spatial resolution as possible the CLV in various continuum/broad-band wavelengths as well as in narrow bands.observational details

Targets: Both quiet Sun and active region plage

Status: SUMER part draft; EIS part in preparation

Contact: teriaca@mps.mpg.de

(21) W. Curdt, L. Teriaca, G. Avrett: Super disk atlasjustification

50" x 120" rasters in 13 selected spectral windows. observational details

Targets: Quiet Sun

Status: SUMER part ready; EIS part in preparation

Contact: curdt@mps.mpg.de

(22) D. Innes, L. Harra: Structure of active region coronajustification

Temperature structure of active region coronae. observational details

Targets: AR off limb

Status: SUMER part ready; EIS part in preparation

Contact: innes@mps.mpg.de

(23) H. Mason, D. Innes: Characteristcs of AR transient brighteningsjustification

Temperature structure of active region coronae. observational details

Targets: AR on disk

Status: SUMER part ready; EIS part in preparation

Contact: innes@mps.mpg.de

(24) G. Doschek, E. Landi: DEM of active structures above the limbjustification

Maximum spectral information for active region structures observed off limb. observational details

Targets: AR off limb

Status: SUMER EIS: in preparation

Contact: george.doschek@nrl.navy.mil

(25) P. Gomory, J. Rybak: justification

Maximum . observational details

Targets: Quiet Sun

Status: SUMER EIS: in preparation

Contact: choc@ta3.sk

(26) D. Innes: Chromospheric heating in quiet Sunjustification

T. observational details

Targets: Quiet Sun

Status: SUMER part ready; EIS part in preparation

Contact: innes@mps.mpg.de

(27) H. Peter, P. Zacharias, W. Curdt, H. Mason, R. Walsh, J. Noglik: Coronal dynamics in response of heating processes justification

Fast EIS movie and SUMER sit-and-stare. observational details

Targets: AR loops

Status: SUMER EIS: in preparation

Contact: peter@kis.uni-freiburg.de

(28)E. Landi: Diagnostics of quiescent active region loops justification

120" x 300" rasters of active regions both with SUMER and EIS observational details

Target: AR on disk

Status: SUMER, EIS in preparation

Contact: Enrico.landi@nrl.navy.mil

(29)E. Landi: The thermal structure of off-disk quiet Sun and active region plasmas justification

off-limb 120" x 300" rasters with EIS and sit-and-stare with SUMER observational details

Target: QS and AR off limb

Status: SUMER, EIS in preparation

Contact: Enrico.landi@nrl.navy.mil

(30)S. Parenti: Prominence spectral atlas justification

reference spectrum of a prominence and of the quiet Sun with EIS and SUMER observational details

Target: Prominence and QS

Status: SUMER, EIS in preparation

Contact: s.parenti@oma.be

(31)B. Schmieder: Prominence justification

raster prominence with EIS and sit-and-stare with SUMER. This is JOP178 observational details

Target: Prominence

Status: SUMER, EIS in preparation

Contact: brigitte.schmieder@obspm.fr

(32)S. Kamio: Velocity field in a coronal hole justification

rasters with EIS and SUMER observational details

Target: polar coronal hole

Status: SUMER, EIS in preparation

Contact: suguru.kamio@nao.ac.jp

last modified: 23 Mar 2007

Week 1 (14) - 01/04 - 08/04							
UT	Mon. 2	Tue. 3	Wed. 4	Thu. 5	Fri. 6	Sat. 7	Sun. 8
0:00	29 (EL AR-OL)	29 (EL AR-OL)	9 (L.T. ADS)	21 (WC SA)	9 (L.T. ADS)		7 (KW plume)
1:00	29 (EL AR-OL)	29 (EL AR-OL)	9 (L.T. ADS)	21 (WC SA)	9 (L.T. ADS)	7 (KW plume)	7 (KW plume)
2:00	29 (EL AR-OL)	29 (EL AR-OL)	9 (L.T. ADS)	21 (WC SA)	9 (L.T. ADS)	7 (KW plume)	7 (KW plume)
3:00	29 (EL AR-OL)	29 (EL AR-OL)	9 (L.T. ADS)	21 (WC SA)	9 (L.T. ADS)	7 (KW plume)	7 (KW plume)
4:00			9 (L.T. ADS)	21 (WC SA)	9 (L.T. ADS)	7 (KW plume)	7 (KW plume)
5:00				21 (WC SA)		7 (KW plume)	7 (KW plume)
6:00				21 (WC SA)		7 (KW plume)	7 (KW plume)
7:00				21 (WC SA)		7 (KW plume)	7 (KW plume)
8:00				21 (WC SA)		7 (KW plume)	7 (KW plume)
9:00				21 (WC SA)		7 (KW plume)	7 (KW plume)
10:00				21 (WC SA)		7 (KW plume)	7 (KW plume)
11:00	22 (DI AR-OL)	22 (DI AR-OL)	11 (MM ECH)	21 (WC SA)	16 (JGD EE)	7 (KW plume)	7 (KW plume)
12:00	22 (DI AR-OL)	22 (DI AR-OL)	11 (MM ECH)	21 (WC SA)	16 (JGD EE)	7 (KW plume)	7 (KW plume)
13:00	22 (DI AR-OL)	22 (DI AR-OL)	11 (MM ECH)	10 (MM ss)	16 (JGD EE)	7 (KW plume)	32 (SK CH)
14:00	22 (DI AR-OL)	22 (DI AR-OL)	11 (MM ECH)	10 (MM ss)	16 (JGD EE)	7 (KW plume)	32 (SK CH)
15:00	22 (DI AR-OL)	22 (DI AR-OL)	11 (MM ECH)	10 (MM ss)	16 (JGD EE)	7 (KW plume)	32 (SK CH)
16:00	22 (DI AR-OL)	22 (DI AR-OL)	13 (DB QS)	10 (MM ss)	16 (JGD EE)	7 (KW plume)	32 (SK CH)
17:00	2 (WC AR-OL)	2 (WC AR-OL)	13 (DB QS)	10 (MM ss)		7 (KW plume)	8 (DB PCH)
18:00	2 (WC AR-OL)	2 (WC AR-OL)	13 (DB QS)	10 (MM ss)		7 (KW plume)	8 (DB PCH)
19:00	2 (WC AR-OL)	2 (WC AR-OL)	13 (DB QS)			7 (KW plume)	8 (DB PCH)
20:00	2 (WC AR-OL)	2 (WC AR-OL)	13 (DB QS)			7 (KW plume)	8 (DB PCH)
21:00	2 (WC AR-OL)	2 (WC AR-OL)	13 (DB QS)			7 (KW plume)	8 (DB PCH)
22:00			18 (GD Te)			7 (KW plume)	
23:00			18 (GD Te)			7 (KW plume)	