

ISSI team on solar magnetism and irradiance

Minutes of Session 1 (11-15 October 2004)

Team member's attendance

Domingo Vicente
Ermolli Ilaria
Fox Peter
Fröhlich Claus
Haberreiter Margit
Kopp Greg
Pap Judit
Sánchez Almeida Jorge
Scherrer Phil (by phone and PPT)
Schmutz Werner
Spruit Henk
Unruh Yvonne
Vögler Alexander

1. Presentations

Parts 1 & 2: Presentation of measurements and data analysis methods and results. Discuss terminology (1)

Monday morning

Vicente Domingo: Tentative Planning and discussion
Greg Kopp: Current and Future Solar Irradiance Measurements
Peter Fox: Analysis and capabilities of PSPT/MLSO for irradiance studies including future plans.

Monday afternoon

Vittorio Manno: ISSI introduction
Claus Fröhlich: Total Solar Irradiance since late 1978.
Phil Scherrer: Processing and calibration information for MDI continuum observations

Part 3: presentation of phenomenological and theoretical models. Discuss how they can be approached by available and future measurements (1)

Tuesday morning

Ilaria Ermolli: Feature identification methods applied to full-disk PSPT images. Data archive, image pre-processing. Image decomposition techniques.
Judit Pap: Data analysis techniques and results
Peter Fox: Modelling of the solar spectrum, including future plans.

Tuesday afternoon

Ilaria Ermolli: Results of modelling irradiance variations through full-disk PSPT images and semi-empirical atmosphere models.
Vicente Domingo: Small scale photospheric magnetic field intensity and facular contrast
Margit Haberreiter: Modelling the UV irradiance
Yvonne Unruh: Modelling the (continuum, or low-res flux) of faculae, the quiet-Sun and spots
Alexander Vögler: Radiative MHD simulations of quiet Sun and plage magnetic fields

Part 3: presentation of phenomenological and theoretical models. Discuss how they can be approached by available and future measurements (3)

Wednesday morning

Henk Spruit:	Active regions as areas of enhanced surface cooling
Jorge Sanchez Almeida:	Observations of the magnetic fields present in the non-magnetic Sun in Inter-network regions. Inter-network magnetism and solar irradiance variations
Werner Schmutz:	Lyra instrument on PROBA-2

2. General discussion, team formations and team start of activities

Wednesday afternoon, Thursday & Friday

- Elaborate common or complementary approaches to the data analysis techniques so that the results are coherent and provide a good test bed for the theory.
- Elaborate on how the phenomenological, analytical, and numerical simulation theoretical models complement each other.
- Agree period of time to perform agreed analysis of data and comparison with theoretical models.
- Agree a work plan for the rest of the project, including a decision on how the result of the project will be made public.

3. Topics, topic teams and topic leaders

1) **TSI & spectral irradiance:** Kopp, Fröhlich, Pap, Unruh, Haberreiter. Responsible: Kopp & Fröhlich

2) **Imaging intensity and magnetic measurements, data analysis and feature identification:** Fox, Scherrer (tbc), Ermolli, Pap, Turmon (tbc), Walton (tbc). Responsible: Ermolli.
MDI, PSTP, San Fernando, (Kitt Peak SPM)

3) **Radiative models, description and comparison with measurements,** Fox, Haberreiter, Unruh, Ermolli. Responsible: Fox

4) **MHD simulations and observation. Specialized runs, inter-network, high resolution observations.** Vögler, Spruit, Sánchez, Domingo. Responsible: Vögler

4. Calendar

20 October 2004:	Domingo to set up work-space at ISSI computer
30 October 2004:	Session 1 presentations at ISSI space and selection next meeting date
30 November 2004:	External web page within ISSI - Domingo
15 January 2005:	1st Quarterly report by team leaders
15 April 2005:	2nd Quarterly report by team leaders
4-8 July 2005 or 5-9 September 2005	Team session 2 (A vote among team members will decide which date. Reply to Domingo by 30 October 2004. Mandatory if you want to be taken into account).

5. Publications

- A technical report in the web. Perhaps in printed form, if it is pertinent under ISSI or other.
- Papers in scientific journals.

Minutes distributed to all team members