

Solar Cycle 24, Napa 8th to 12th December 2008

Group I : Active Region Loops

Date	Session title & objective
Tuesday 9th December 2008 TUES III 1430-1600 Room: Pinot-Noir A	What are active region loops? Speaker: Urgate-Urra
Tuesday 9th December 2008 TUES IV 1700-1830 Room: Pinot-Noir B	Joint with C Coronal loops and the slow solar wind Speakers: Bale Doschek
Wednesday 10th December 2008 WED I 0900-1030 Room: Pinot-Noir C	Joint with G Dynamic heating in active regions Speakers: Parenti Mason
Wednesday 10th December 2008 WED II 1100-1230 Room: Pinot-Noir A	Diagnostics in active regions I: Observations Speakers: Young Aschwanden Doschek Nightingale
Thursday 11th December 2008 THURS I 0900-1030	OPEN
Thursday 11th December 2008 THURS II 1100-1230 Room: Pinot-Noir A	Diagnostics in active regions II: Forward modelling Speakers : Zacharias Bourouaine
Thursday 11th December 2008 THURS III 1430-1600 Session 7 Room: Pinot-Noir A	Diagnostics in active regions III Overflow and round-up
Thursday 11th December 2008 THURS IV 1700-1830	OPEN

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Overall Aim: A major advance in our understanding of the solar corona came about in the discovery that a significant proportion of the radiation emitted from this part of the solar atmosphere is concentrated along well-defined loop-like structures. These loops are the basic structural elements of active regions and are now believed to coincide with magnetic flux tubes where plasma and thermal energy can flow along (but not easily across) these features.

Building upon the wealth of observations from SOHO and TRACE, already Hinode and STEREO are providing new insights and novel views of active region loops that are both strengthening and challenging our current understanding of their fundamental nature. The torrent of data from the upcoming SDO mission will stretch further our current thinking on their basic make-up, how they are heating and their activity.

Given the above, this working group will address several key science themes associated with active region loops. These are outlined further in the following detailed schedule.

Note that certain speakers have been targetted to “kick-start” the discussion. Each speaker (apart from IUU) has been given 15 mins to contribute to that part of the workshop discussion. There should be plenty of time for discussion and for others to make short, “spontaneous” contributions. However, if you feel you want to present something more specific at a given session, please contact the Group leaders Mike Marsh (MMarsh@uclan.ac.uk) and Aveek Sarkar (Asarkar1@uclan.ac.uk).

TUES III: What are active region loops?

Tuesday 9th December 2008 , 1430-1600

We began the workshop sessions by asking ourselves the basic question - can we provide a clear, unambiguous definition of what is an active region loop? In that regard, our invited speaker (IUU) will provide the group with an overview of the major issues/questions in regard to loops that the working group could address during the workshop.

Speakers: Ignacio Urgarte-Urra (NRL)

TUES IV: Coronal loops and slow solar wind

Tuesday 9th December 2008 , 1700-1830

A joint session with Group B will examine the latest observations of the potential source of the slow solar wind and how these are related to active regions.

Speakers: Stuart Bale (Berkeley)
George Doschek (NRL) - EIS observations of flows in active regions

WED I: Dynamic heating in active regions

Wednesday 10th December 2008 , 0900-1030

Joint with Group G (Microflares and nanoflares), this session will investigate the theoretical and observational consequences of heating active regions by small-scale, discrete energy episodes.

Speakers: Susanna Parenti
Helen Mason (Cambridge) -EIS observations of active regions

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WED II: Diagnostics in active regions I Wednesday 10th December 2008 , 1100-1230

Both spectroscopic and imaging observations have been employed to diagnose the basic plasma parameters within active regions. In particular, are active region loops monolithic, isothermal plasma tubes or are they multi-thermal, many stranded structures? Will we ever be able to distinguish between these two paradigms?

Speakers: Peter Young (NRL) - EIS observations of AR loops
George Doschek (NRL) - EIS observations of active regions
Markus Aschwanden (LMSAL)- Heating and cooling of loops
Richard Nightingale (LMSAL)- Plasma parameters from TRACE data

THURS II: Diagnostics in active regions II Thursday 11th December 2008 , 1100-1230

Continuing on from WED II, we will start to bring into the discussion results from magnetohydrodynamic (MHD) forward modelling for both imaging and spectroscopic instrumentation.

Speakers: Pia Zacharias (KIS) - 3D MHD model and Doppler shifts
Sofiane Bourouaine (Lindau) - Ion heating and simulated EUV/X-ray emission

THURS III: Diagnostics in active regions III Thursday 11th December 2008 , 1430-1600

An “overflow” session to complete any further discussion as well as return to the major questions outlined in TUES II to see what progress has been made!

Speakers: TBC