### Martin Reiss<sup>1</sup>, Nick Arge<sup>2</sup>, Carl Henney<sup>3</sup>, Jon Linker<sup>4</sup>, Karin Muglach<sup>3</sup>, Alexei Pevtsov<sup>5</sup>, and Rui Pinto<sup>6</sup>.

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Content

What are we doing?

What's the status of the roadmap?

What are the S2-related highlights during this meeting?





S2-03: Global Solar Magnetic Field Team Leads: Carl Henney, Nick Arge

What is the science question? The team aims to improve the inner boundary of our modeling assets.

We can constrain global solar magnetic maps for only approximately a third of the total solar surface at any given time. The team's objective is to figure out how best to account for the remaining two thirds of the solar surface.





S2-04: Use of Vector Field Synoptic Maps Lead: Alexei Pevtsov

What is the science question? The team aims to evaluate the strengths and weaknesses of modern observations of vector magnetic fields, investigate their potential in space weather research and forecasting, and to promote further use of vector field data in the community.





S2-05: Sun-Spacecraft and Sun-Earth Magnetic Connectivity Leads: Rui Pinto, Jon Linker

What is the science question? Wind flows, shocks and energetic particles follow paths that are strongly tied to the geometry of the magnetic field. Establishing magnetic connectivity from the solar surface to any point in space is therefore a key challenge.

The team focuses on evaluating the abilities of connectivity tools, and on proposing appropriate validation metrics.





S2-01: Coronal Hole Boundary Working Team Leads: Martin Reiss, Karin Muglach

What is the science question? Coronal holes are the part of the solar magnetic field that is open to the heliosphere. We want to learn more about the uncertainties of their boundaries when observed in SDO AIA images of the Sun.

![](_page_4_Picture_6.jpeg)

![](_page_5_Picture_1.jpeg)

S2-05: Solar Indices and Irradiance Leads: Carl Henney, Karin Muglach

What is the science question? Solar UV radiation is absorbed in the Earth's upper atmosphere, driving ionization and heating of the neutral atmosphere.

This team wants to understand how best to model and predict the observed variability in solar irradiance to drive ionospheric and thermospheric models.

![](_page_5_Picture_6.jpeg)

# What's the status of the roadmap?

#### Authors

Nick Arge (lead), Martin Reiss (coordinator), and S2 team leads.

### What do we have?

Draft with approx. 10 pages on Overleaf.

![](_page_6_Picture_5.jpeg)

othy et al., 1975). Interchange reconnection is a

ous exchange of footpoints between open and closed field lines (Crooker et al., 2002). Interchange reconnection occurs large-scale systematic process (where the reconnection occurs high in the corona at the streamer cusps), random small-scale interchange reconnection events may also occur at the bound aries, which (along with the small-scale granular ar

ADVANCES IN

RESEARCH

#### **Science Topics**

- Global Solar Magnetic Field (s2-03)
- Vector Field Magnetic Maps (S2-04)

- Solar Indices and Irradiance (s2-02)

### **Overarching Questions**

#### Whats next?

- Sun-Spacecraft and Sun Earth Magnetic Connectivity (\$2-05) - Coronal Hole Boundary Locations (S2-01)

- What are the key science questions that we need to answer? - What is our current understanding of the research field? - What are the science gaps? What are opportunities for closing these gaps and expanding our understanding? - Where can we be in 5 years, and beyond 5 years?

- Get feedback from the community to close the gaps and put the review into a bigger picture.

# What are the S2-related highlights during this meeting?

### S2 Review Paper Session

Thursday (September 16th) 16:30UTC - 18:30UTC

![](_page_7_Picture_3.jpeg)

**Organizers:** Nick Arge, Martin Reiss

**Topics:** global solar magnetic field, heating, irradiance.

#### **Objective:**

Discuss status of the S2 paper and collect feedback from the community.

#### Agenda:

- Block 1: Introduction
- Block 2: Scene Setting Talks
  (discuss each science topic in the S2 review and collect feedback)
- Block 3: Open Discussion (cross-team and cluster collaborations, new action teams, etc.)

S2-05 Team Session

Tuesday (September 14th) 16:30UTC - 18:30UTC

![](_page_7_Picture_14.jpeg)

**Organizer:** Rui Pinto

**Topics:** *Sun-spacecraft and Sun-Earth magnetic connectivity* 

**Objective (Part 1):** 

Discuss events for magnetic connectivity studies, and set up a strategy to work on them.

**Objective (Part 2):** 

Discuss first results of Part 1 at a later stage of the ISWAT Meeting (September 27–28).

### H1-01 Paper Session

Wednesday (September 15th) 16:30UTC - 18:30UTC

![](_page_7_Picture_23.jpeg)

**Organizers:** Martin Reiss, Karin Muglach

**Topics:** *ambient solar wind, forecast verification* 

#### **Objective:**

Discuss open platform for ambient solar wind model verification and collect feedback for Tier 1 paper.

#### Agenda:

- Block 1: Introduction
- Block 2: Expertise in H1-01
- Block 3: Platform Showcase
- Block 4: Open Discussion