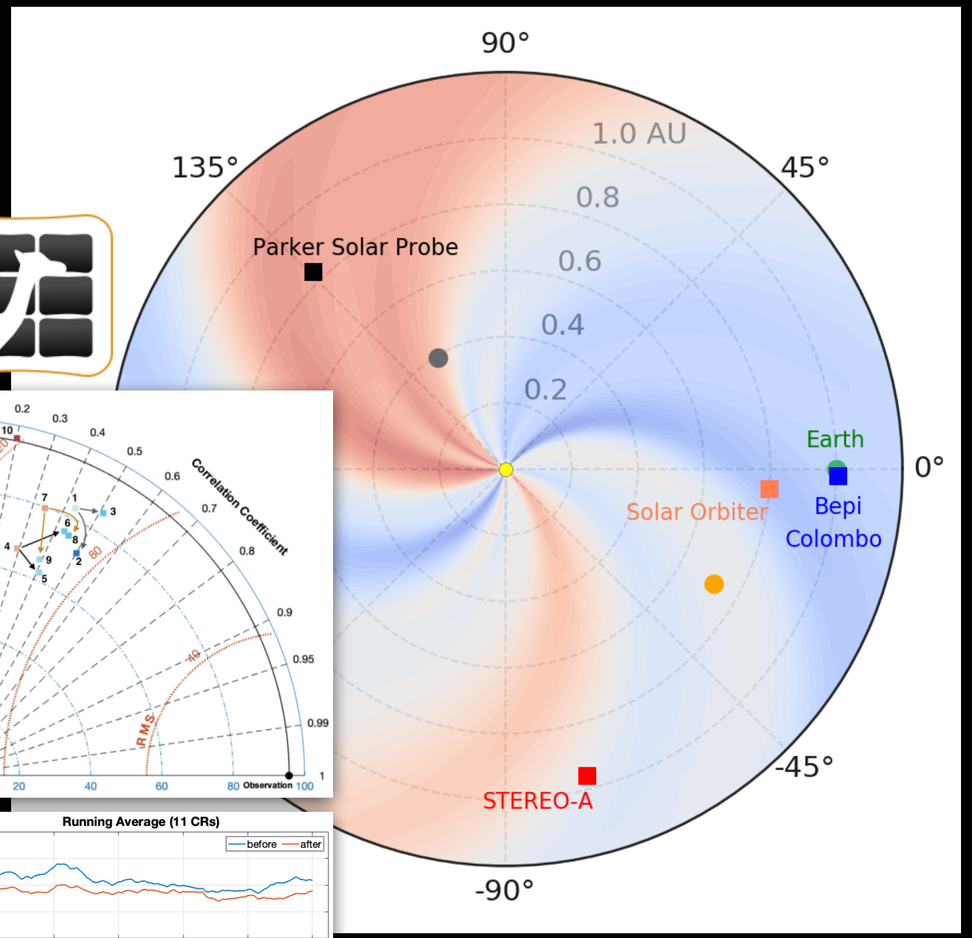
H1-01: The Ambient Solar Wind Validation Team

Martin Reiss[1], Karin Muglach[2], and H1-01 team members.

[1]Space Research Institute, Graz, Austria; [2]NASA Goddard Space Flight Center, Greenbelt, United States;



Content

Overview of ISWAT Team H1-01

What did we discuss during the working meeting?

How does this feed into the Tier 1 paper?

Find out more at
www.iswat-cospar.org/h1-01

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What is the objective?

Develop an online platform for the verification of ambient solar wind models in an open exchange with the space weather community.

Why does it matter?

Ambient solar wind models are a key part of space weather research and forecasting.

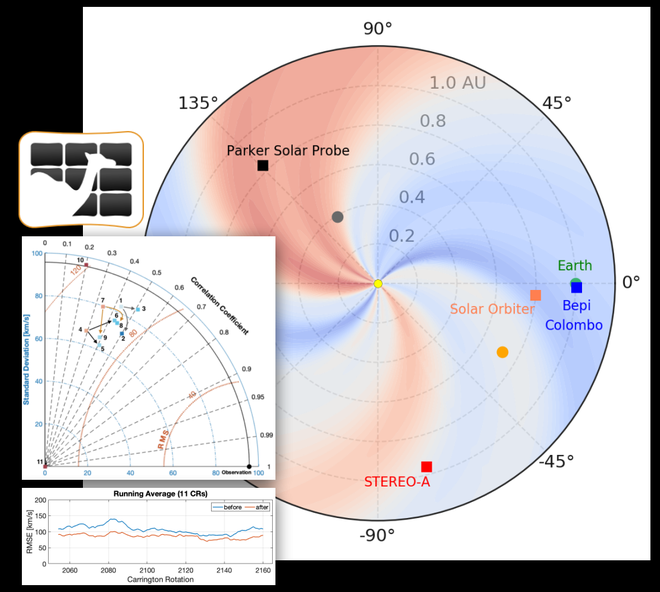
What are the problems? (a selection)

1. keeping up with the ever-growing number of models, and different versions thereof.

2. no agreement on forecasting goals and metrics.

3. slow iterative process between model developers and end-users (MacNeice et al., 2018).

4. increasingly versatile user needs. End-users have to rely on metrics selected by authors of validation studies.



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What advantages can the open platform offer?

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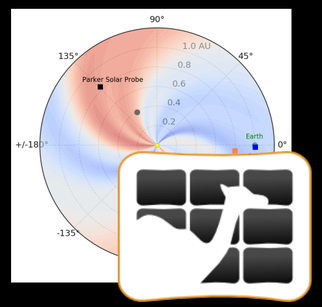
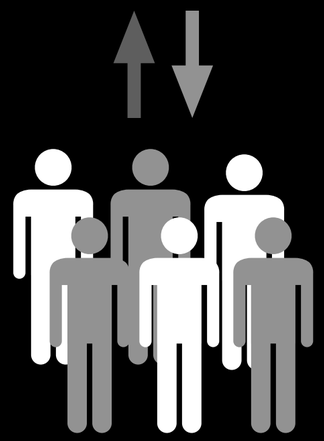
CAMEL



Rastätter et al., 2019



→ Enables a fast illustration of state-of-the-art solar wind models.
(Problem 1)

→ Use metrics agreed on by the space weather community.
(Problem 2)

→ New model versions can be instantly made available online.
(Problem 3)

→ End-users can select metrics.
(Problem 4)

What did we discuss during the working meeting?

Expertise in the Action Team

- Siegfried Gonzi (MetOffice) - *Forecast Verification at the MetOffice*
- Manuela Temmer (University of Graz) - *Solar Wind Forecasting at Earth: Uni Graz*
  ESA Services ESWF and STEREO+CH
- Evangelia Samara (KU Leuven) - *Dynamic Time Warping to Assess Ambient Solar Wind Predictions*

Discussion of the Open Validation Platform

- Showcase the validation platform
- Progress on metadata
- Progress on validation metrics
- Solar wind model registration

Future Perspectives & Open Discussion

- Tier 1 paper
-

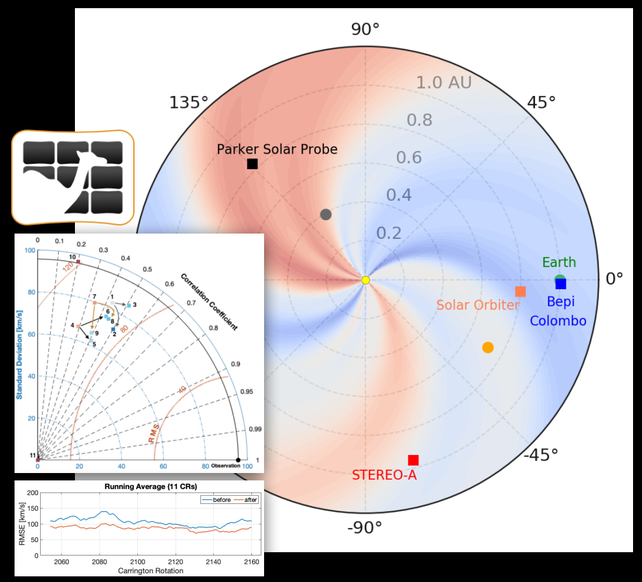
How does this feed into the Tier 1 paper?

Questions we will address

- Why is ambient solar wind modeling important?
- What is the current state-of-the-art in solar wind predictions?
- What are the problems in assessing solar wind models?
- How can we close these gaps?
- What advantages does the online platform bring?
- Why should model developers and end-users be interested in using and contributing to the platform?

Paper outline

- Introduction
- Ambient Solar Wind Models in 2021
- Progress on Metadata
- Progress on Metrics
- Development of the Online Platform
- Discussion



Overleaf

Whats the progress?

- helped us to learn more about the expertise we already have in the action team.
- gave us a clearer picture of the research questions we need to address.
- community feedback on the BETA version is valuable for future development.