

The solar wind's geomagnetic impact and its Sun-Earth evolution
Predictive models for space weather and for the Parker Solar Probe orbit

PhD defense by
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Georg-August Universität Göttingen

Thursday, 1 November 2018, 14:00
Seminarraum Astrophysik (SR 17, F 05.104)

Solar wind Geomagnetic impact of the solar wind Solar wind model for the inner heliosphere End matter References

Two topics

Title
The solar wind's geomagnetic impact and its Sun-Earth evolution
–
Predictive models for space weather and for the Parker Solar Probe orbit

Study 1
The solar wind's geomagnetic impact – Predictive models for space weather

Study 2
The solar wind's Sun-Earth evolution – Predictive models for the Parker Solar Probe orbit

Solar wind Geomagnetic impact of the solar wind Solar wind model for the inner heliosphere End matter References

Solar wind

- Solar wind
- Geomagnetic impact of the solar wind
- Solar wind model for the inner heliosphere
- End matter

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Solar wind

Credit: Michael Druckmüller, Peter Axford, Shudha Habab, 2017

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Solar wind

Credit: Owen & Forsyth (2013, Fig. 1), adapted from Schutte et al. (1999, Fig. 1)

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Solar wind

Credit: Owen & Forsyth (2013, Fig. 9)

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Solar wind

Credit: SOHO/LASCO (2018-09-19 09:14 UT)

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Solar wind

Courtesy of S. M. Fuselier
Credit: S. M. Fuselier

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Solar wind

Credit: Owen & Forsyth (2013, Fig. 7), right panel, adapted from Pizzo (1991, Fig. 2)

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Solar wind

SOHO graphics (http://sdo.jhuapl.edu); Royal Observatory of Belgium, 2018 September 1

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Solar wind

Credit: McComas et al. (2000a, Fig. 1)

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Solar wind

2000/02/27 07:42
Courtesy of SOHO/LASCO consortium. SOHO is a project of international cooperation between ESA and NASA.

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Solar wind

2017-09-06 15:00:00
Source: SOHO/LASCO Solar Wind Monitoring, SOHO/LASCO Data Center for Environment Monitoring

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Geomagnetic impact of the solar wind

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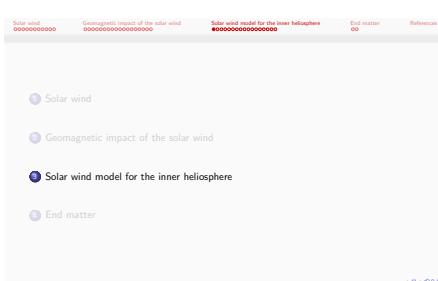
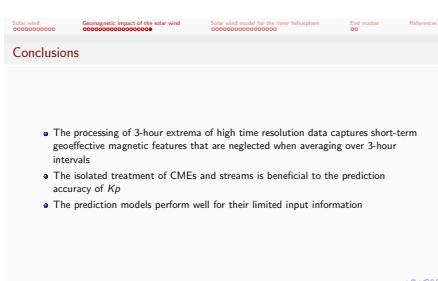
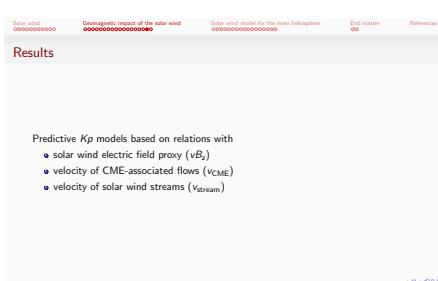
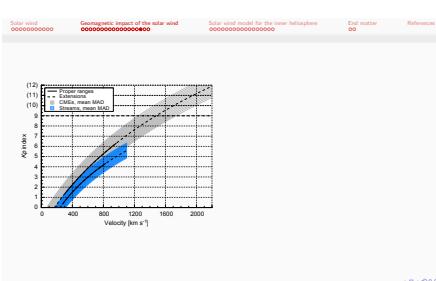
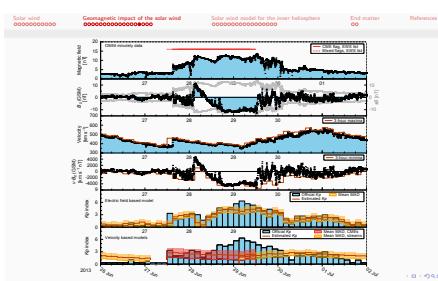
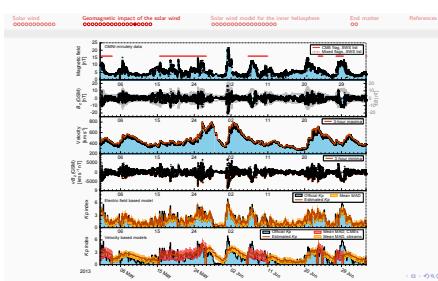
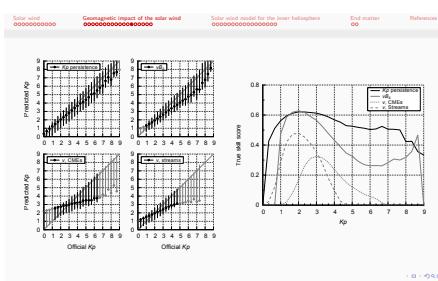
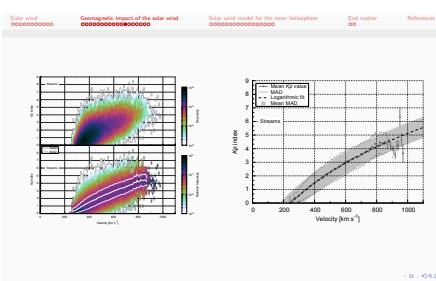
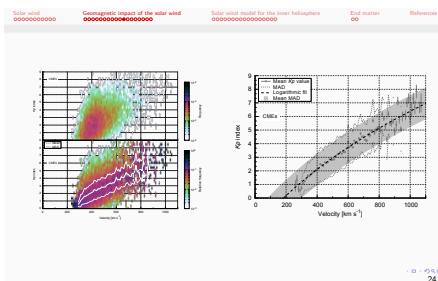
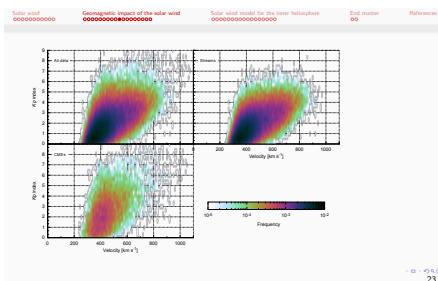
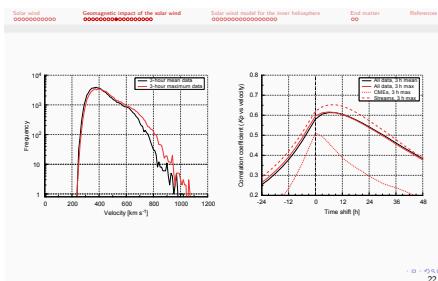
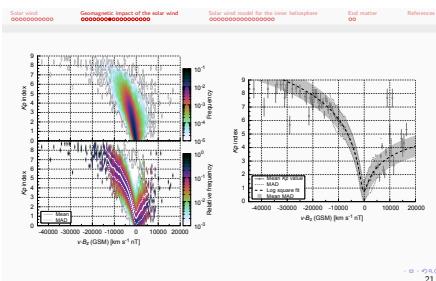
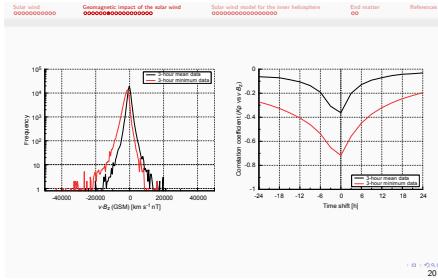
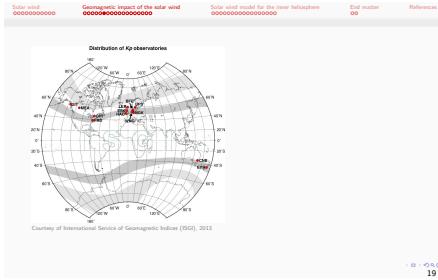
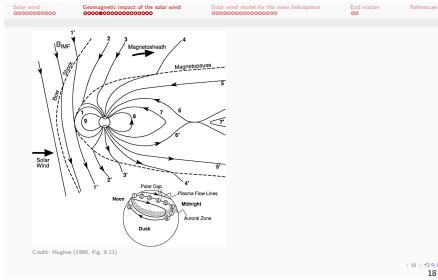
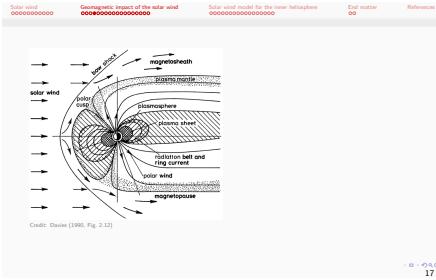
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Geomagnetic impact of the solar wind

Aims

Empirical relations to predict the K_p index from solar wind electric field and from CME and stream velocity

Courtesy of SOHO/LASCO consortium. SOHO is a project of international cooperation between ESA and NASA.



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Thank you!

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Backup slides

- part two
- part 3
- Backup slides 2

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first slide
A bit more information about this

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Definition
A definition

<https://www.sharelatex.com/learn/lateX/Beamer>

53

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• Backup slides

• part two

• part 3

• Backup slides 2

58

Sample frame title

In this slide, some important text will be **highlighted** because it's important. Please, don't abuse it.

Remark
Sample text

Examples
Sample text in green box. "Examples" is fixed as block title.

Important theorem
Sample text in red box

59

Sample frame title

In this slide, some important text will be **highlighted** because it's important. Please, don't abuse it.

Remark
Sample text

Important theorem
Sample text in red box

Examples
Sample text in green box. "Examples" is fixed as block title.

60

• Backup slides

• part two

• part 3

• Backup slides 2

61

Two-column slide

This is a text in first column.
 $E = mc^2$

This text will be in the second column and on a second thought this is a nice looking layout in some cases (Venzmer & Bothmer, 2018).

- First item
- Second item

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• Backup slides

• part two

• part 3

• Backup slides 2

63

Backup slide

part 1
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part 2
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Backup slide 2
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