CHRISTIAN-ALBRECHTS-UNIVERSITÄT ZU KIEL

MASTER THESIS

Thesis Title

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Research Group Name
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Abstract

The Thesis Abstract is written here (and usually kept to just this page). The page is kept centered vertically so can expand into the blank space above the title too...

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Chapter 1

Motivation

Chapter 2

Pickup Ions

Pickup ions are created when neutral atoms inside the heliosphere become ionised and are subsequently swept away with the heliospheric magnetic field that is embedded within the solar wind.

2.1 The Heliosphere

Oder Überkapitel Solar Physics?

Heliosphere: Grenze zu LISM

Solar Wind: Zusammensetzung, schneller und langsamer

B-Feldgleichung

2.2 Pickup Ions

A neutral atom inside the heliosphere is only subjected to the gravitational force and radiation pressure of the sun. It is not sensitive to any electromagnetic forces until it becomes ionised by solar ultra-violet radiation, charge exchange with solar wind protons or electron impact (Q?). After ionisation the particle starts interacting with the solar wind plasma. In particular it is forced onto a gyro orbit about the heliospheric magnetic field that is embedded within the solar wind. As the freshly created ion is swept away with the magnetic field line it is "picked up" from its location of ionisation – a new pickup ion has been created.

First described by... name given... First measured by Moebius, He+

Warum gerade He+ untersuchen? Häufigstes at 1 AU

Discriminate from solar wind: VDF non-maxwellian and mostly single charged. Once the particle is ionised, its probability to become ionised another time decreases (Quelle). This characteristic of being only singly charged can help to discriminate PUIs from solar wind ions, that are mostly more often charged (Q?).

Two sources of neutral atoms: Interstellar and Inner source Häufigkeit spiegelt nicht LISM-Häufigkeit wider wegen FIP

2.3 VDF

After the particle has been ionised it is forced onto a gyro motion about the local field line of the heliospheric magnetic field due to the Lorentz force.

No velocity compared to vsw

Chapter 3

Instrumentation

3.1 ULYSSES

sfsf

3.2 SWICS

sffsf

Appendix A

Frequently Asked Questions

A.1 How do I change the colors of links?

The color of links can be changed to your liking using:

`\hypersetup{urlcolor=red}`, or
`\hypersetup{citecolor=green}`, or
`\hypersetup{allcolor=blue}`.

If you want to completely hide the links, you can use:

`\hypersetup{allcolors=.}`, or even better:
`\hypersetup{hidelinks}`.

If you want to have obvious links in the PDF but not the printed text, use:

`\hypersetup{colorlinks=false}`.

Declaration of Authorship

I, Anne Fischer, declare that this thesis titled, “Thesis Title” and the work presented in it are my own. I confirm that:

- This work was done wholly or mainly while in candidature for a research degree at this University.
- Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated.
- Where I have consulted the published work of others, this is always clearly attributed.
- Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work.
- I have acknowledged all main sources of help.
- Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself.

Signed:

Date:

Acknowledgements

The acknowledgments and the people to thank go here, don't forget to include your project advisor…