### CHRISTIAN-ALBRECHTS-UNIVERSITÄT ZU KIEL

#### MASTER THESIS

### Thesis Title

Author:
Anne Fischer

Supervisor: Prof. Dr. Wimmer-Schweingruber

Research Group Name Department or School Name

October 5, 2019

# **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...

# **Contents**

Al	bstract	iii
1	Motivation	1
2	Theoretical Background  2.1 Solar Wind	3 3 3 3
3	Instrumentation 3.1 ULYSSES	<b>5</b> 5 5
A	Frequently Asked Questions A.1 How do I change the colors of links?	7 7
De	eclaration of Authorship	9
Ac	cknowledgements	11

# Chapter 1

# Motivation

### **Chapter 2**

## Theoretical Background

#### 2.1 Solar Wind

Oder Überkapitel Solar Physics? Heliopshere

#### 2.2 Pickup Ions

Pickup ions are created when neutral atoms within the heliosphere become ionised and are subsequently "picked up" by the surrounding solar wind plasma.

Neutral particles inside the heliosphere are only subjected to gravitational force and radiation pressure of the sun.

Ionisation by photoionisation by solar ultra-violet radiation, charge exchange or electron impact (Quelle?)

After ionisation the particles start interacting with the solar wind plasma. In particular they are forced onto gyro orbits around the local magnetic field (that is embedded in the solar wind and swept away outwards) due to the Lorentz force.

First described by... name given...

Two sources of neutral atoms: Interstellar and Inner source

Velocity distribution

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?).

#### 2.2.1 VDF

# **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...