

# Space Plasma Physics

Lectures for the IMPRS from 11 June to 15 June at the MPS in Lindau

Given by **Eckart Marsch**,

## **Monday, 11.6.**

09:00 - 09:45 Basic plasma properties and equations  
10:00 - 10:45 Space plasmas, examples and phenomenology  
15:45 - 16:30 Single particle motion and trapped particles

## **Tuesday, 12.6.**

09:00 - 09:45 Collisions and transport phenomena  
10:00 - 10:45 Elements of kinetic theory  
15:45 - 16:30 Fluid equations and magnetohydrodynamics

## **Wednesday, 13.6.**

09:00 - 09:45 Magnetohydrodynamic waves  
10:00 - 10:45 Boundaries, shocks and discontinuities

## **Thursday, 14.6.**

09:00 - 09:45 Plasma waves in the fluid picture I  
10:00 - 10:45 Plasma waves in the fluid picture II  
15:45 - 16:30 Fundamentals of wave kinetic theory

## **Friday, 15.6.**

09:00 - 09:45 Concepts of plasma micro- and macroinstability  
10:00 - 10:45 Kinetic plasma microinstabilities  
15:45 - 16:30 Wave-particle interactions