

# Magnetic Fields of Stars: From the Sun to Compact Objects (39th Saas-Fee Advanced Course)

March 23-28 2009

Les Diablerets (Switzerland)

Magnetic Fields of Stars: From the Sun to Compact Objects

The course addresses all aspects of stellar magnetic fields. The Sun, of which we best know and understand the magnetic field, shall serve as a reference object. Thus, lectures on the solar magnetic field will occupy about one third of the course, treating in detail the solar dynamo and all aspects of magnetic fields on the solar surface and in the outer atmosphere, and basic techniques of polarimetry of magnetic fields. In another third of the course we will turn our interest to magnetic fields of stars. On the theoretical side we will focus on stellar dynamos and magnetic fields during star formation and stellar evolution, and on the observational side on techniques and results from Doppler and Zeeman imaging of stellar magnetic fields and on the magnetic activity of different types of stars. A third of the full course will be devoted to the fate of the magnetic fields in the formation of the compact objects that emerge at the end of stellar evolution. This includes the current understanding of the observation and dynamics of magnetic fields in stellar collapse, white dwarfs and neutron stars.

The lectures will be given by three top experts in the field. These are:

Paul Charbonneau  
Département de Physique  
Université de Montréal  
Montréal, Canada

Sami K. Solanki  
Max-Planck-Institute für  
Sonnensystemforschung  
Katlenburg-Lindau, Germany

Christopher Thompson  
Canadian Institute for  
Theoretical Astrophysics  
Toronto, Canada

The lectures will be held in the morning and in the late afternoon leaving free time for informal discussions, studies, and outdoor activities (skiing) in the afternoons.

The course is intended mainly for post graduate astronomers and physicists who wish to broaden their knowledge about astrophysical magnetic fields. More information on the course programme, general information, and registration is available on this course web-site (<http://www.physik.unibas.ch/saasfee39>).

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