Saas-Fee Advanced Course 31

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Extrasolar Planets

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Swiss Society for Astrophysics and Astronomy
Edited by D. Queloz, S. Udry, M. Mayor and W. Benz

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Preface

In April 2001 the Swiss Society of Astrophysics and Astronomy (SSAA) organized its 31st winter "Saas-Fee" course on "Brown Dwarfs and Planets" in a picturesque resort at Grimentz on the Swiss Alps. The range of topics mainly focused on extrasolar planets' science. We entitled these lecture notes "Extrasolar Planets."

Research on extrasolar planets is one of the most exciting fields of activity in astrophysics. In just a decade a huge step has been made from the early speculations on the existence of planets orbiting "other stars" to the first discoveries and the characterization of extrasolar planets. This breakthrough is the result of the growing interest of a large community of researchers as well as the development of a wide range of new observation techniques and facilities. We organized the 31st winter course to cover all relevant aspects of this new field: observation and detection techniques, physics of their interior, and physics of their formation. We were very happy to have three senior lecturers, Andreas Quirrenbach, Tristan Guillot, and Patrick Cassen, cover these three subjects. They provided information to more than 100 participants and also gave updated comprehensive course materials, which is a challenging task considering the rapid development of this field of research. We hope that the level of details and the comprehensive view offered by authors will be appreciated as a comprehensive detailed introduction to this exciting subject.

We would like to warmly thank our three speakers for the high standard of their lectures and notes, as well as their discussion with students. We also thank all participants for their participation, kindness, and enthusiasm in taking part in the events organized. We thank Dominique Briguet of "A La Marena" for his hospitality and his help with the local organization. We would also like to warmly thank Elisabeth Teichamann, our course secretary, who gave us immense support during the preparation of the meeting as well as during the course. This course has been made possible thanks to a grant from the Swiss Academy of Sciences.

Geneva
June 2005

Didier Queloz
Stéphane Udry
Willy Benz
Michel Mayor

Our three lecturers: (*left*) Pat Cassen, (*middle*) Andreas Quirrenbach, (*right*) Tristan Guillot

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