Planetary Systems and Planets in Systems

edited by

Stéphane Udry
Observatoire de Genève, Sauverny, Switzerland

Willy Benz
Physikalisches Institut, University of Bern, Switzerland

Rudolf von Steiger
International Space Science Institute, Bern, Switzerland


Table of Contents

Foreword

Michel Mayor, Science with Enthusiasm and Humour; A. Maeder

I: Giant Planets: General View
Chemical Properties of Stars with Giant Planets; N.C. Santos, M. Mayor and G. Israelian
Current Challenges Facing Planet Transit Surveys; D. Charbonneau
Angular Momentum Constraints on Type II Planet Migration; W.R. Ward
On Multiple Planet Systems; W. Kley
A New Constraint on the Formation of Jupiter; T. Owen

II: Multi-Planetary Systems: Observations
Isotopic Constraints on the Formation of Earth-Like Planets; A.N. Halliday
Planets Around Neutron Stars; A. Wolszczan
Systems of Multiple Planets; G.W. Marcy, D.A. Fischer, R.P. Butler and S.S. Vogt
Debris Disks; A.-M. Lagrange and J.-C. Augereau

III: Multi-Planetary Systems: Theory
Formation of Cores of Giant Planets and an Implication for “Planet Desert”; S. Ida
Chaotic Interactions in Multiple Planet Systems; E.B. Ford, F.A. Rasio and K. Yu

IV: Planets in Systems
Properties of Planets in Binaries; S. Udry, A. Eggenberger and M. Mayor
On the Formation and Evolution of Giant Planets in Close Binary Systems; R.P. Nelson
Induced Eccentricities of Extra Solar Planets by Distant Stellar Companions; T. Mazeh
Is Planetary Migration Inevitable?; C. Terquem

V: Missions
The Kepler Mission; W. Borucki et al.
The Exoplanet Program of the CoRoT Space Mission; C. Moutou and the CoRoT Team

VI: Working Group Reports
Dynamical Interactions Among Extrasolar Planets and their Observability in Radial Velocity Data Sets; G. Laughlin and J. Chambers

VII: Future and Conclusions
Theories of Planet Formation: Future Prospects; J.J. Lissauer
Direct Detection of Exoplanets: A Dream or a Near-Future Reality?; D. Rouan
Planets With Detectable Life; T. Owen
Outlook: Testing Planet Formation Theories; A.P. Boss