

Contents

Foreword

Lecture Notes

THE ATMOSPHERE OF VENUS: WINDS AND CLOUDS OBSERVED BY VIRTIS/VENUS EXPRESS <i>R. Hueso et al.</i>	1
THE UPPER ATMOSPHERE OF VENUS OBSERVED BY VENUS EXPRESS <i>Miguel Angel López-Valverde et al.</i>	13
THE PHYSICAL CHARACTERIZATION OF THE STARS <i>C. Jordi and E. Masana</i>	33
DARK ENERGY AND THERMONUCLEAR SUPERNOVAE <i>I. Domínguez et al.</i>	45
GALAXIES AND THEIR ENVIRONMENTS: CONNECTIONSWITH NUCLEAR ACTIVITY <i>Isabel Márquez</i>	63
MAGNETIC FIELDS IN GALAXIES <i>E. Battaner et al.</i>	83
GRAN TELESCOPIO CANARIAS: A KEY ASSET FOR SPANISH ASTRONOMY <i>F. Sánchez</i>	103
HIGH-RESOLUTION GROUND-BASED EUROPEAN SOLAR PHYSICS <i>M. Collados</i>	113
ROBOTIC ASTRONOMY AND ITS APPLICATION TO THE STUDY OF GAMMA-RAY BURSTS <i>A. J. Castro-Tirado</i>	131

Essays

THE MARTIAN UPPER ATMOSPHERE <i>F. González-Galindo et al.</i>	151
WHY ARE INTENSE GEOMAGNETIC STORMS SO IMPORTANT FOR HUMAN LIFE? <i>Elena Saiz et al.</i>	163
THE PHYSICS OF THE HII REGIONS: THE PHOTOIONIZATION EQUILIBRIUM IN THE HII REGIONS OF M51 <i>L. Gutiérrez and J.E. Beckman</i>	177
THE FUNDAMENTAL CYCLOTRON LINE IN 4U 1538-52 <i>José J. Rodes et al.</i>	189
IR PROPERTIES OF ASTROPHYSICAL ICES IN THE UNIVERSE <i>R. Vilaplana et al.</i>	201
AN OVERVIEW OF SOHO 12 YEARS LATER <i>R. Gómez-Herrero et al.</i>	213

PREPARING ESA GaiaMISSION: STELLAR SPECTRA PARAMETERIZATION BY NEURAL NETWORKS IN THE NEAR INFRARED <i>D. Ordóñez Blanco et al.</i>	225
Author Index	235
Subject Index	237