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| Nota di contenuto       | CONTENTS; Workshop photographs; Organizing Committees; Preface; Memory of Livio Scarsi; Part A - Astrophysics, Cosmology and Earth Physics; Simulations for UHE Cosmic Ray Experiments J. Knapp; 1. Cosmic Rays and Air Showers; 2. The Pierre Auger Observatory; 3. Simulations versus Models; 4. Air Shower Simulations and the CORSIKA Program; 5. Some Selected Details; 6. Outlook; Acknowledgement; References; Detector Modeling in Astroparticle Physics S. Petrer; 1. Introduction; 2. MACRO as a detector; 2.1. Atmospheric neutrinos and their oscillation; 2.2. Physics and detector simulation<br>1. Introduction2. Comparison of Models; 3. Conclusions; References; Observations, Simulations, and Modeling of Space Plasma Waves: A Perspective on Space Weather V. S. Sonwalkar; 1. Introduction; 2. Atmosphere-Ionosphere-Magnetosphere System and its Solar Drivers; 3. Plasma Waves; 3.1. Observations of plasma waves; 3.2. Generation |

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Numerical Simulations in Astrophysics: From the Stellar Jets to the White Dwarfs F. Rubini, L. Delzanna, J. A. Biello, J. W. Truran

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## Sommario/riassunto

This proceedings volume contains results presented at the Sixth International Workshop on Data Analysis in Astronomy - "Modeling and Simulation in Science" held on April 15-22, 2007, at the Ettore Majorana Foundation and Center for Scientific Culture, Erice, Italy. Recent progress and new trends in the field of simulation and modeling in three branches of science - astrophysics, biology, and climatology - are described in papers presented by outstanding scientists. The impact of new technologies on the design of novel data analysis systems and the interrelation among different fields are fore

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