

**LABORATORI NAZIONALI DEL GRAN SASSO**

**SEMINAR ANNOUNCEMENT**

**Denise Boncioli**  
*(Tor Vergata University, Rome)*

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***The Pierre Auger  
Observatory results and  
UHECR composition data: a  
clue for investigating  
UHECR source models***

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*Ultra High Energy Cosmic Rays (UHECR) are the most energetic particles known in nature, with observed energies larger than  $10^{18}$  eV. The Pierre Auger Observatory has been designed to measure these particles with unprecedented statistics and precision, obtaining crucial results on the measurement of the main cosmic ray characteristics as the energy spectrum and the mass composition. The study of the extragalactic propagation of UHECR has an important role on the investigation of the UHECR origin. I will discuss extragalactic nuclei propagation and I will present the MC propagation code SimProp. It constitutes a fundamental tool for the comparisons of Auger results with astrophysical scenarios of UHECR sources, that will be here discussed. The study of propagation is also discussed to point out the different roles of the mass composition results. A starting point for a global view on UHECR results (spectrum and mass composition) will be also presented.*

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