

# Magnetic Horizons of Ultra-High Energy Cosmic Rays

*Tuesday 26 August 2014 14:20 (20 minutes)*

The origin, composition and mechanisms of acceleration the Ultra-High Energy Cosmic Rays (UHECRs) are not yet fully understood. The trajectories of these particles can be affected by cosmic magnetic fields. Depending on the strength and properties of these fields, charged cosmic rays can diffuse and have propagation times comparable to the age of the universe, causing a suppression in the measured flux of particles. In this work we use magnetic field distributions from cosmological simulations to study the effects of this suppression on the UHECR spectrum and mass composition.

**Primary author:** Mr ALVES BATISTA, Rafael (II. Institute for Theoretical Physics, University of Hamburg)

**Co-author:** Prof. SIGL, Guenter (II. Institute for Theoretical Physics, University of Hamburg)

**Presenter:** Mr ALVES BATISTA, Rafael (II. Institute for Theoretical Physics, University of Hamburg)

**Session Classification:** Nuclear and particle astrophysics

**Track Classification:** 5) Nuclear and particle astrophysics