



Contribution ID: 32

Type: **2.Parallel session talk**

Effects of extragalactic background light on the propagation of VHE gamma rays and possible mechanism of the propagation

We present an introduction to the effects of extragalactic background light on the propagation of very high energy (VHE) gamma rays from GRBs. Generically, highly energetic extragalactic photons would be severely attenuated via interaction with the extragalactic background light since the optical depth values for VHE photons are large. Then, how come the multi-TeV photons have been unexpectedly observed from GRBs? One possibility to solve this issue involves interconversions between axion-like particles and photons in the presence of a background magnetic field. We attempt to investigate how the prodigiously and extraordinarily energetic photons originated from collapsars may be brought about using a novel mechanism as well. In addition, the relevant details are elucidated and corresponding equations are derived to give reasonable explanations naturally. The possible mechanism of the highly energetic extragalactic gamma rays traveling to the earth has been discussed.

Primary author: YUAN, Yu

Presenter: YUAN, Yu

Session Classification: Parallel 7: Interdisciplinary aspects of few-body physics and techniques

Track Classification: Interdisciplinary aspects of few-body physics and techniques