



Contribution ID: 85

Type: Poster

## **Anisotropic optical response of dense quark matter under rotation - compact stars as cosmic polarizers -**

*Thursday 16 August 2012 16:00 (2 hours)*

Quantum vortices in the color-flavor locked (CFL) phase of QCD have bosonic degrees of freedom localized on them, called the orientational zero modes. We show that the orientational zero modes are electromagnetically charged. As a result, a vortex in the CFL phase nontrivially interacts with photons. We show that a lattice of vortices acts as a polarizer of photons with wavelengths larger than some critical length.

**Primary author:** Mr HIRONO, Yuji (The University of Tokyo)

**Co-author:** Prof. NITTA, Muneto (Keio University)

**Presenter:** Mr HIRONO, Yuji (The University of Tokyo)

**Session Classification:** Poster Session Reception

**Track Classification:** QCD at finite temperature and density