Contribution ID: **99** Type: **Presentation**

Radio-line signatures from conversion of axion-like particles to photons

Thursday 21 June 2018 14:30 (20 minutes)

Axion-like particles (ALPs) can convert into photons in several different ways: in an external magnetic field (known as the Primakoff effect), by decay into two photons, or through parametric amplification of incoming radio photons in an oscillating ALP field within a narrow frequency range. For non-relativistic ALPs all three effects can give rise to radio lines, in particular from astrophysical objects with strong magnetic fields or from regions with ALP over-densities, such as ALP stars. We give a short overview over estimated intensities and prospects for detectability of such radio lines.

Primary author: Prof. SIGL, Guenter (University of Hamburg)

Presenter: Prof. SIGL, Guenter (University of Hamburg)

Session Classification: Plenary presentations