



Contribution ID: 1234

Type: Poster

A Narrow Mass Window Search for the Axion/ALP Field

Friday, 8 July 2022 20:10 (20 minutes)

Based upon simulations and calculations and a detection scheme reported earlier and some recent modifications, the proposal of a narrow-mass range search for invisible axions (or Axion-Like Particles, ALP's) is presented here with high potential for success. Our model is based upon the central assumption that the axionic field (or the ALP field) is the dominant field with observable density that permeates our local neighborhood and thus the local axion density is the density of the local light cold dark matter. In a narrow axion Compton frequency window of 18.5 to 19.5GHz (within the Ku microwave band), corresponding to an axion mass range of 76.8 to 81.0micro-eV, centered at the value hereby suggested in this report as the most likely value for axions. We are confident that if an axionic/axion-like field exists, it most likely could be found at this mass value/Compton frequency prediction.

In-person participation

Yes

Primary author: BUKHARI, Masroor

Presenter: BUKHARI, Masroor

Session Classification: Poster Session

Track Classification: Astroparticle Physics and Cosmology