38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS
AUGUST 3 - 10, 2016
CHICAGO

Contribution ID: **121** Type: **Oral Presentation**

New methods to search for DM candidates (15' + 5')

Thursday 4 August 2016 18:20 (20 minutes)

ABSTRACT: The search for Axions, a particle theorized to explain the lack of CP violation in strong physics and suspected to contribute if not explain galactic dark matter, has lead to ever-sensitive techniques to study induced vacuum birefringence. What remains an issue: many of the measurable parameters that could give evidence for this illusive particle scale with the square of the birefringent angle (proportional to the photon-axion coupling constant). This talk will look at new techniques that can generate measurables that scale linearly (first order) with an induced birefringence. This has the potential to extend significantly the range through which cavity experiments can probe the vacuum of space in performing searches for axions and other exotic particles.

Primary author: Dr SCARLETT, Carol (Florida A&M University)

Presenter: Dr SCARLETT, Carol (Florida A&M University)

Session Classification: Dark Matter Detection

Track Classification: Dark Matter Detection