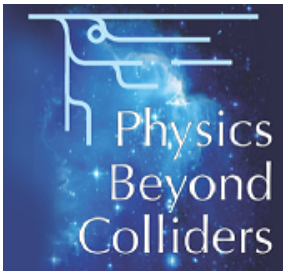

Contribution ID: **54** Type: **not specified**

Ultralight dark matter and experiments to search for it

Tuesday 6 September 2016 13:30 (30 minutes)

Precision measurement offers a powerful new approach for particle physics. Technologies such as atom interferometry, nuclear magnetic resonance, high precision magnetometry, and torsion balances allow novel, highly sensitive experiments for direct detection of dark matter and gravitational waves. These provide the optimal method for direct detection of light dark matter candidates such as the axion, often with relatively small-scale experiments. Searching for these light fields is additionally motivated since they are the crucial element in the recently proposed solution to the hierarchy problem using dynamical relaxation in the early universe. Thus precision measurement technologies open new avenues for probing the origin and composition of the universe.

Presenter: GRAHAM, Peter

Session Classification: Theorists - motivations, ideas and wishes