



Contribution ID: 49

Type: **Poster**

A cryogenically-cooled source of YbF molecules for measuring the electron's electric dipole moment

Tuesday, 12 October 2010 17:00 (0 minutes)

Certain polar molecules can be used to measure the electron's electric dipole moment (edm) to high precision. In our electron edm measurement at Imperial College London, we currently use a beam of YbF molecules derived from a supersonic source. We are developing a new source of cold YbF molecules based on cryogenic buffer gas cooling. The molecules are created by laser ablation inside a cryogenically-cooled cell of helium gas. They are cooled to the helium temperature and then leave the cell through a hole to form an intense, slow-moving, cold beam. We present our measurements of the intensity, speed and temperature of this new YbF beam, and discuss how we will use it to the benefit of a new edm measurement.

Primary author: Dr TARBUTT, Michael (Imperial College London)

Co-authors: Dr SAUER, Ben (Imperial College London); Dr SEGAL, Danny (Imperial College London); Prof. HINDS, Ed (Imperial College London); Dr HUDSON, Jony (Imperial College London); Mr BULLEID, Nicholas (Imperial College London); Dr HENDRICKS, Richard (Imperial College London); Ms SKOFF, Sarah (Imperial College London)

Presenter: Dr TARBUTT, Michael (Imperial College London)

Session Classification: Poster Session