

Department of Physics

Particle Physics

The Denys Wilkinson Building, Keble Road, Oxford OX1 3RH



Experimental Particle Physics Seminar

at 2.15 pm

Dennis Sciama Lecture Theatre

Tuesday 14th May 2019

Dr Linda Cremonesi
University College London

Hunting ultra high energy neutrinos in Antarctica

Abstract

The ANtarctic Impulsive Transient Antenna (ANITA) is a long-duration balloon payload funded by NASA, with an array of radio antennas. ANITA scans the Antarctic ice looking for Askaryan radio emission coming from ultra-high-energy ($>E_{18}$ eV) neutrinos interactions. Extensive air showers coming from ultra-high-energy cosmic rays and hadronic showers from tau neutrinos can also be detected by ANITA via geomagnetic radio emission. ANITA currently has the best limit on cosmogenic neutrinos above E_{19} eV. This talk will present an overview of the ANITA experiment, the latest results of the third and fourth flights, and improvements towards future flights.