Contribution ID: **121**   Type: **Oral presentation**

Detection of explosive materials with Gamma Resonant Nuclear Absorption and Argon-Nitrogen TPC

Thursday, 7 July 2011 09:25 (20 minutes)

Detection of explosives in large cargo containers is an important preventive measure to counteract terrorism. The element-sensitive radiography with gamma-rays is one promising method, allowing to selectively detect Nitrogen content in various materials, which is a reliable signature of most of commercial explosives.
A novel high-resolution tracking detector sensitive to 9.17 MeV Nitrogen nuclear resonant absorption-line is being developed at the University of Bern.
The detector is based on a Time Projection Chamber (TPC) filled with a mixture of liquefied Argon and Nitrogen. The facility to generate gamma-rays of the required energy is based on a 2 MeV proton LINAC. First promising results of the performance of the detector and of the gamma-source facility are presented.

Primary author: Dr KRESLO, Igor (LHEP, Uni-Bern)

Co-author: Mr ZELLER, Marcel (LHEP, Uni-Bern)

Presenter: Dr KRESLO, Igor (LHEP, Uni-Bern)

Session Classification: Applications III