Industry meets Academia: Beam Monitoring Instrumentation and Quality Assurance



Contribution ID: 23

Type: not specified

Monitoring a very low current and wide beam at KATRIN

Friday, 11 November 2011 12:30 (30 minutes)

The Karlsruhe Tritium Neutrino Experiment uses a Windowless Gaseous Tritium source to measure the neutrino mass. This source provides a flux of electrons with an average energy of 4 keV towards retarding spectrometers of 10E11 electrons per second. The flux, which is guided adiabatically by magnetic fields, is uniformly spread over cross sections larger than 40 cm². We outline the cases, why it is desired to measure the intensity of this low energy beam as precise as possible without interference of the beam.

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