

**HEP@VUB meeting (unusual
date/time): 14:00 - 15:00**

Report of Contributions

Contribution ID: 1

Type: **not specified**

Project 8 - neutrino masses

Friday, 11 December 2020 14:00 (30 minutes)

Project 8 is a next-generation direct neutrino mass experiment using tritium beta decay. In order to cover the entire allowed region of effective electron neutrino mass in the case of an inverted neutrino mass hierarchy, Project 8 is designed to have an energy sensitivity of 0.04 eV. This goal requires the development of new technology and methods. Among these are the development of Cyclotron Radiation Emission Spectroscopy (CRES), a non-destructive method of measuring the differential energy spectrum of the decay electrons. Moving from a molecular tritium source to an atomic tritium source will overcome the systematic limitations associated with molecular final states.

I will review the phased approach of Project 8, highlight the milestones achieved in phases 1 & 2, and focus on the next key R&D steps.