

Summer Student Session 2011

Student: Joakim Olsson

Date and Time: Wednesday, 17th of August, 9.30 – 9.45

Subject: “Impact of CMS ECAL anomalous signals on jet reconstruction.”

Biography

Brief CV:

❖ **Field of Study:** Physics (special interest in particle physics)

❖ **Education:**

2006-2009: B.Sc. Engineering Physics (Chalmers University, Sweden)

2009-2010: Research student (Tohoku University, Japan)

Present: M.Sc. Theoretical Physics (Chalmers University, Sweden)

❖ **Project:**

The CMS Electromagnetic Calorimeter (ECAL) features a radiation-induced noise, consisting of high-energy isolated deposits, which are referred to as anomalous signals. These must be eliminated from physics analysis in order to prevent large biases in the energies of reconstructed electrons, photons and jets. This noise is filtered at the trigger level and in the offline data reconstruction.

The aim of this project is to measure how many anomalous signals contribute to the jet reconstruction if the energy measurement recovered from the trigger electronics is used. This measurement will then be used to determine the efficiency of the cleaning algorithm used in the trigger electronics.