HL-LHC Resources request

Date: 2017-03-01	*Title Position/Task:* Development of Long Range Beam-Beam (LRBB) & Hollow Electron lens
Project/Activity: WP13	

Description Project:

The main challenges for the design of electron lenses for halo diffusion (hollow e-lens) and for long-range beam-beam compensation, are generating high current electron sources and transporting the high density electron beam. Studies are required to simulate the electron transport and experimentally measure e-gun performance.

Task:

Contribute to the design of electron lenses for long-range beam-beam compensation and halo diffusion. The work will include:

-   Simulation of the electron transport of high current electron beams from the electron gun through the e-lens up to the collector, and subsequent optimization of e-lens parameters.
-   Constructing a test bench for the development of such systems
-   Using the test bench to characterize e-gun emission, measure the e-beam profile and validate simulations.

Profile: Applied physicist with a degree in Physics or Engineering. PhD is an advantage.

Experience:

This post requires laboratory experience, in particular the set-up of experimental stations, experimental measurements and data analysis. Knowledge of electron (or plasma) beam dynamics and accelerator physics would be an asset.

Specific details: Candidates will be expected to possess a good working knowledge of either English or French. Familiarity with simulation codes such as CST, E-GUN or ULTRASUM would be an advantage.

Requester: BE-BI

Starting date: asap