



Contribution ID: 65

Type: **talk**

VELA/CLARA at Daresbury Laboratory as a test-bed for advanced accelerator concepts

Tuesday, 15 September 2015 18:00 (30 minutes)

VELA (Versatile Electron Linear Accelerator) is a new small scale facility at Daresbury Laboratory, UK. It is based on RF photoelectron gun and currently delivers high quality short electron bunches with the beam energy of ~ 5 MeV. The facility has two dedicated experimental areas. One of them is specifically designed to accommodate various experimental arrangements including studies and testing of advanced accelerator concepts. This area is further enhanced by the availability of high power TW femtosecond laser. In the near future, the VELA capability will be further enhanced after commissioning of the CLARA (Compact Linear Accelerator for Research and Applications) front end in the first half of 2016. This will enable VELA to generate sub-ps electron bunches with up to 250 pC, ~ 50 MeV beam energy and a rep-rate of 10 Hz (with further upgrade to 400 Hz). This presentation gives an overview of the facility, summarises experimental data and computer simulations and discusses its usage for advanced accelerator concepts studies.

Primary author: Dr SAVELIEV, Yuri (STFC, Daresbury Lab., ASTeC)

Presenter: Dr SAVELIEV, Yuri (STFC, Daresbury Lab., ASTeC)

Session Classification: WG3 - Electron beams from electromagnetic structures, including dielectric and laser-driven structures

Track Classification: WG3 - Electron beams from electromagnetic structures, including dielectric and laser-driven structures