

The Beams and Applications Seminar Series

Recent Results from the SPARC Project at INFN-LNF

**Massimo Ferrario
INFN-LNF, Italy**

**Bldg. 401, rm B2100
Friday, October 13, 1:30 pm**

Host: C.-X. Wang, ASD

Abstract: The SPARC project foresees the realization of a high brightness photo-injector to produce a 150-200 MeV electron beam to drive a SASE-FEL in the visible light. As a first stage of the commissioning a complete characterization of the photoinjector is undergoing with a detailed study of the emittance compensation process. For this purpose a novel beam diagnostic, called emittance meter, has been developed. This device allows to measure at different location along the beamline the evolution of important beam parameters such as beam sizes, energy spread and rms transverse emittances in a region where the space-charge effect dominate the electron dynamics. From an analysis of the data it is also possible to reconstruct the phase-space evolution of the beam and make high precision comparison with simulation. In this talk we report our commissioning experience and the results obtained so far. A brief discussion of superconducting rf gun will be given as well.

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(kitching@aps.anl.gov, 630-252-6159) to arrange for a gate pass.

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