



ID contributo: 134

Tipo: talk

SINBAD-ARES - A Photo-Injector for external Injection Experiments in novel Accelerators at DESY

martedì 17 settembre 2019 18:00 (20 minuti)

The accelerator R&D facility SINBAD (Short innovative bunches and accelerators at DESY) will drive multiple independent experiments in the fields of production of ultrashort electron bunches and test of advanced high gradient acceleration concepts.

The SINBAD-ARES (Accelerator Research Experiment at SINBAD) linac has been designed to allow the production of high brightness ultrashort electron bunches with arrival-time stability of 10fs RMS. The accelerator will be used to study experimentally the optimization of the brightness for fs long electron bunches. Such electron bunches, with tunable characteristics, will be then injected into novel accelerators realized in the context of the ATHENA project, the ACHIP international collaboration and the ARIES program.

In this talk we describe the principal characteristics of the linac design, we underline the technical challenges connected to the production and characterization of fs bunches and we report about the status of the installations and commissioning.

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Classifica Sessioni: WG4

Classificazione della track: WG4 - Application of compact and high-gradient accelerators