



Contribution ID: 43

Type: **Poster (student)**

ARIA, a VUV beamline for EuPRAXIA@SPARC_LAB

Tuesday, 20 September 2022 19:20 (1 hour)

EuPRAXIA@SPARC_LAB is a new Free Electron Laser (FEL) facility that is currently under construction at the Laboratori Nazionali di Frascati of the INFN. The electron beam driving the FEL will be delivered by an X-band normal conducting LINAC followed by a plasma wakefield acceleration stage. It will be characterized by a small footprint and include two different plasma-driven photon beamlines. In addition to the soft-X-ray beamline, named AQUA and delivering ultra-bright photon pulses for experiments in the water window to the user community, a second beamline, named ARIA, has been recently proposed and included in the project. ARIA is a seeded FEL line in the High Gain Harmonic Generation configuration and generates coherent and tunable photon pulses in the range between 50 and 180 nm.

Here we present the potentiality of the FEL radiation source in this low energy range, by illustrating both the layout of the FEL generation scheme and simulations of its performances.

Primary authors: Dr OPROMOLLA, Michele (University of Milan and INFN-Milan); Dr VILLA, Fabio (INFN-Frascati); Dr GIANNESI, Luca (Elettra-Sincrotrone Trieste and INFN-Frascati); Dr FERRARIO, Massimo (INFN-Frascati)

Co-authors: Dr CORENO, Marcello (INFN-Frascati, CNR-ISM and Elettra-Sincrotrone Trieste); Dr EBRAHIMPOUR, Zeinab (INFN-Frascati); Dr GHIGO, Andrea (INFN-Frascati); Dr MARCELLI, Augusto (INFN-Frascati, CNR-ISM Trieste and RICMASS Rome); Dr NGUYEN, Federico (ENEA-Frascati); Dr PETRALIA, Alberto (ENEA-Frascati); Prof. PETRILLO, Vittoria (University of Milan and INFN-Milan); Dr SELCE, Andrea (ENEA-Frascati); Dr STELLATO, Francesco (Univeristy of Rome Tor Vergata and INFN-Rome Tor Vergata)

Presenter: Dr OPROMOLLA, Michele (University of Milan and INFN-Milan)

Session Classification: Poster Session