

NA-PAC 2016 Abstract

Andrei Seryi



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Title Compact ring-based X-ray source with on-orbit and on-energy laser-plasma injection

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Author(s) Marlene Turner (CERN, Geneva), Jeremy Cheatam, Auralee Edelen (CSU, Fort Collins, Colorado), Osip Lishilin (DESY Zeuthen, Zeuthen), Aakash Ajit Sahai (JAI, London), Andrei Seryi (JAI, Oxford), Brandon Zerbe (MSU, East Lansing, Michigan), Andrew Lajoie, Chun Yan Jonathan Wong (NSCL, East Lansing, Michigan), Kai Shih (SBU, Stony Brook, New York), James Gerity (Texas A&M University, College Station), Gerard Lawler (UCLA, Los Angeles, California), Kookjin Moon (UNIST, Ulsan)

Abstract We report here the results of one week long investigation performed during June 2016 USPAS class "Unifying physics..." on conceptual design of an X-ray source based on a compact ring with on-orbit and on-energy laser-plasma acceleration injection (mini-project 10.4 from [1]). We describe three versions of the light source, based on 1 GeV normal conducting and superconducting bending magnets, and 3 GeV superconducting. We describe the design choices, present the tables of parameters of the machines, and describe possible next steps of the design and optimization of the considered machines.

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Footnote [1] Unifying physics of accelerators, lasers and plasma, A. Seryi, CRC Press, 2015.

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