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In-vacuum X-ray Undulator based Synchrotron Radiation Optimization within the scope of GASOLINE Project

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Since accelerator based light sources are cutting-edge-technology tools in natural sciences research of the 21st Century, they provide unique user experiments by superior radiation characteristics. On account of this, rapid & high-precision alignment of photon beamline components (including design and optimization of the undulator as a matter of course), is a big concern for many beamline scientists. In this respect, a hybrid in-vacuum X-ray undulator driven by a 6 GeV synchrotron, is optimized through Evolutionary Algorithms (EAs). It is shown that the EA results provide promising design & optimization estimations for photon beamline scientists.

Primary author: KETENOGLU, Bora (Ankara University)

Co-authors: BOSTANCI, Gazi Erkan (Ankara University); KETENOGLU, Didem (Ankara University); CANBAY, Ali Can (Ankara University); HARDER, Manuel (European XFEL); KARACA, Adnan Sahin (Ankara University); EREN, Engin (DESY); AYDIN, Ayhan (Ankara University); YIN, Zhong (Tohoku University); GUZEL, Mehmet Serdar (Ankara University); MARTINS, Michael (University of Hamburg)

Presenter: KETENOGLU, Bora (Ankara University)