Contribution ID: **105** Type: **Oral presentation**

Pyroelectric undulator

Thursday, 27 September 2018 17:50 (15 minutes)

Pyroelectric Undulator

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The electric undulator for production of radiation was first proposed in [1]. However, magnetic undulators were developed in further researches [2]. More recently, pyroelectric source of strong electric field was developed. The pyroelectric deflectors of non-relativistic [3] and relativistic [4] electron beams were studied experimentally. In the present paper, the electric undulator based on pyroelectric elements is proposed. The pyroelectric undulator operates in vacuum without any outer high voltage power supply due to heating or cooling of pyroelectric elements. The main properties of the pyroelectric undulator are considered in linear approximation.

Acknowledgments
The research was supported by a program of the ministry of education and science of The Russian Federation for higher education establishments, project №14.578.21.0192 (RFMEFI57816X0192).

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Session Classification: S5.2 Novel Sources: FEL/Laser/Plasma