

Radiation from Relativistic Electrons in Periodic Structures "RREPS-23" & Electron, Positron, Neutron and X-ray Scattering under External Influences "Meghri-23"



Contribution ID: 177

Type: **Poster**

Compact REPM structures for synchrotron radiation source

Tuesday 19 September 2023 17:19 (1 minute)

Linear rare earth permanent magnet (REPM) structures of split-pole type with harmonic distribution of magnetization for generators of synchrotron radiation are considered. The main attention is paid to issues of high order harmonic amplitude decrease at longitudinal Fourier-expansion of the field along the electron beam axis. It's presented by a comparison that relative oberton amplitudes decrease down to 0.1% is possible at moderate discreteness of approximation rule of magnetization distribution in longitudinal direction instead of continuous one. Also, some considered systems incorporate unified permanent magnet pieces, in contrast, the well-known split-pole designs requiring a lot of types on magnetization.

Authors: Ms KILMETOVA, Irina (NRC Kurchatov Institute); Ms SERGEEVA, Olga (NRC Kurchatov Institute); Dr KULEVOY, Timur (NRC Kurchatov Institute); Mr SKACHKOV, Vladimir (NRC Kurchatov Institute)

Presenter: Ms KILMETOVA, Irina (NRC Kurchatov Institute)

Session Classification: Poster session II