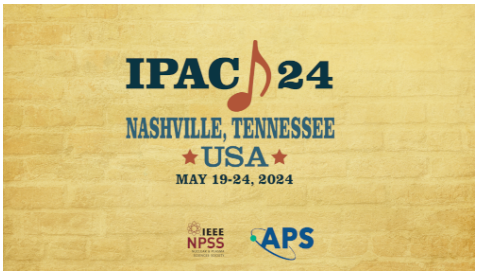

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Status of undulators for the APS upgrade

Tuesday, 21 May 2024 16:00 (2 hours)

The Advanced Photon Source Upgrade (APS-U) project is developing a multi-bend achromat (MBA) lattice at 6.0-GeV beam energy to replace the existing APS storage ring lattice operating at 7.0 GeV. A major part of the project is to design, fabricate, and install 59 hybrid permanent magnet undulators (HPMUs) in 35 straight sections. We have developed four new period lengths for 37 new HPMUs, including Revolver undulators, and plan to reuse 22 existing undulators with four more different period lengths. Large challenges were anticipated at the start of the project to be able to meet tight mechanical fabrication tolerances for many new components and to tune undulators to tight magnetic field requirements on schedule in order to be ready for storage ring installation prior to beam commissioning. We will provide a status update, including measurement results to date, and report on tools and techniques used to meet those demands.

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