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The beam-line steering software for the APS Upgrade accelerator storage ring

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A new beamline steering software system is being developed for the Advanced Photon Source Upgrade (APS-U) accelerator storage ring. This system comprises three main components: The main steering server, which performs the actual beamline steering; The beamline steering server, which monitors users' steering requests and forwards them to the main steering server; And an operational steering application. The underlying steering functionality is managed by the Data Acquisition (DAQ) PV Group module. This module includes utilities for controlling and monitoring multiple scalar Channel Access (CA) Process Variables (PVs), combining their values into a single PV data object that is served on a specified PVA channel. Users can interact with the PV group either via PVA or through a set of control CA PVs hosted directly by the PV group controller. The new steering software is compatible with any kind of global orbit correction, running independently. It offers significant enhancements over the previous system, including parallelization capabilities and improved efficiency.

Footnotes

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Author: SHANG, Hairong (Argonne National Laboratory)

Co-authors: EMERY, Louis (Argonne National Laboratory); SMITH, Martin (Argonne National Laboratory); VESELI, Sinisa (Argonne National Laboratory)

Presenter: SHANG, Hairong (Argonne National Laboratory)

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