

Progress update on the RF system refurbishment at the APS linac

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A new storage ring based on a multi-bend achromat (MBA) lattice has been built at the Advanced Photon Source. Currently, the commissioning process is underway to bring beamlines back into operation. The APS linac consists of two S-band thermoionic cathode guns at the front end and thirteen S-band traveling-wave RF structures, all powered by five klystrons. A major upgrade is in progress to enhance the RF system in the APS linac. Specifically, the high power undulators and klystrons will be replaced with a newly designed solid-state switching modulator systems. Additionally, the RF control and diagnostic systems are being replaced by brand-new digital LLRF systems. As of now, one RF station has been successfully upgraded, commissioned, and it has been operating for half a year. Notably, the RF stability at this station shows significant improvement compared to other stations.

Footnotes

Funding Agency

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