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Development progress of high-level applications for the HEPS

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To meet the beam commissioning requirements of the High Energy Photon Source (HEPS), a brand-new framework called Pyapas was developed using pure Python. All high-level applications (HLAs) for the HEPS are being built upon this framework. The beam commissioning of the Linac started on March 9, 2023, and the HLAs performed excellently, helping the Linac to successfully complete the test and acceptance. By mid-2023, the development of all HLAs for the booster was successfully completed, paving the way for beam commissioning, which began in late July and concluded with in its successful acceptance in November 2023. By June 2024, the development of HLAs for storage ring was completed, followed by multiple rounds of offline testing iterations and joint tests with the hardware system. These efforts ensured the readiness of the HLAs, which supported the successful commissioning of the storage ring and the emission of its first light in October 2024. This paper provides a comprehensive review of the recent progress in the development of HEPS HLAs, emphasizing milestones achieved during the booster and storage ring commissioning, and outlines the roadmap for future development.

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