

A MicroTCA Based Design for HEPS Global Timing System

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The High Energy Photon Source (HEPS) is a fourth generation synchrotron radiation light source with top electron energy of 6 GeV stored in a 1360-m circumference storage ring and a low emittance of less than 0.06nm·rad which is scheduled to complete its construction by the end of 2025. Because of high precision requirements of storage ring swap-out injection and extraction, the bottom width of the kickers' pulse need to be shorter than the separation between two bunches which is 12ns. Consequently, a high precision global timing system with an accuracy about 10ps has to be designed and implemented. This talk will outline the MicroTCA based global timing system design and report the progress of the high precision AMC timing receiver in the event-based timing system.

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