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Prototype of BPM electronics for FEL-HMF

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This paper presents a prototype of BPM electronics for experimental installation of free electron laser and high magnetic field (FEL-HMF). FEL-HMF integrates mid-long Infrared free electron laser, high magnetic field and cryogenic, which is a critical apparatus for new advanced materials especially for low-power electronic materials. The BPM electronics consists of two ADC chips and one FPGA SoC. The ADC has two channels, and sampling rate is 240Mps. The FPGA SoC implements high speed digital signal and data process. The logic part of FPGA SoC is running signal process. The processor part of FPGA SoC runs Linux operating system and EPICS-based user application program. This BPM electrons has been tested and analyzed in lab. Its X and Y position is $\sim 1.4\mu\text{m}$ (RMS).

Footnotes

Funding Agency

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Yes

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