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MicroTCA based Fast Orbit Feedback System for PETRA IV

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PETRA IV is the upcoming low-emittance, 6 GeV, fourth generation light source at DESY Hamburg. Fast Orbit Feedback (FOFB) system for PETRA IV is planned to perform orbit correction for the full range of disturbance spectrum, i.e. from quasi-DC up to 1 kHz. A total of 789 beam position monitors (BPMs) and 522 fast correctors will be available. A large Multi-Input Multi-Output (MIMO) system is planned in an extended star topology.

In this presentation, the FOFB system design based on MicroTCA components will be presented, allowing to cope with 10-fold larger system as currently operated at PETRA III at significantly reduced latency.

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