

X3Timer – Design and development of a new timing AMC hardware for PETRA IV

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At DESY we are in the technical design phase for the upgrade of the PETRA III synchrotron light source towards a 4th generation low emittance machine PETRA IV.

Within this major machine upgrade also almost every electronics for the accelerator controls will be renewed. As the Platform of choice MTCA.4 shall become the new standard.

Because of the good experience with the DESY developed MTCA.4 based timing system from the European XFEL, we decided to reinvent the well-established timing system of PETRA III and its pre-accelerator chain on this base to fulfill the enhanced requirements for PETRA IV. Therefore, the system design and the development of a successor AMC card for PETRA IV is currently in progress.

In the presentation we will show the requirements for the PETRA IV timing system and first concept for its major component, an AMC card named X3Timer. Further on we will present the currently running pre-tests and the state of the hardware development.

Summary

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