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The application of precision time protocol on EAST timing system

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The timing system focuses on synchronizing and coordinating each subsystem according to the trigger signals. The former timing system was based on commercial off-the-shelf devices and a set of synchronized optical network which was made up of several pairs of multi-mode fibers. The expensive PXI devices and inconvenient extension methods compel maintainers to upgrade the timing system to meet the ever increasing demands of the experiments. A new prototype timing slave node based on precision time protocol has been developed using ARM STM32 platform. The proposed slave timing module is tested and experimental results show that the synchronization accuracy between slave nodes is in sub-microsecond range. This paper will introduce the features of the precision time protocol and the details about the system architecture, slave timing module platform and test results will be described in this manuscript.

Keywords: trigger; precision time protocol; STM32

Minioral

Yes

Description

Time protocol

Speaker

Zuchao Zhang

Institute

IPP Hefei

Country

China

Author: Dr ZHANG, Zuchao (ASIPP)

Co-authors: Mr XIAO, Binjia (CASIPP); Dr WANG, Ping (ASIPP); Dr WANG, Yong (Institute of Plasma Physics, Chinese Academy of Sciences); Prof. JI, Zhenshan (ASIPP)

Presenter: Dr ZHANG, Zuchao (ASIPP)

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