Contribution ID: **231** Type: **Oral presentation**

New Picosecond Timing System for ELBE

Thursday 6 July 2023 10:00 (20 minutes)

The ELBE timing system has been patched several times in order to meet changing requirements. In 2019 the development of a new timing system based on Micro Research Finland Hardware has been started which is designed to unify the heterogeneous structure and to replace obsolete components. The system generates complex beam patterns from single pulse, to macro pulse and 26 MHz cw operation including special triggers for diagnostics and machine subsystems. In spring 2023 the software and firmware development of the software has been accomplished, which included the mapping of operation mode and different complex beam patterns onto the capabilities of the commercial platform. It is planned to do the transition to the new timing system in the course of 2023.

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Session Classification: Session: Controls/Seeding/DAQ

Track Classification: Beam control