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MicroTCA at W7-X: Update and first results

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W7-X restarted operation in September of 2022 after a 4-year shutdown. Extensive work was done during that time, including the installation of an actively cooled divertor. This necessitated a sophisticated protection system, to ensure that the internal components of the machine do not overheat. The key DAQ components are high-fidelity infrared and optical cameras. This system alone consist of more than two dozen cameras with multiple GBit/s data rates each and the requirement for real-time processing. In order to achieve this, a generic framework was created, which can integrate different camera hardware standards (CameraLink, CameraLink HS and others) and all cameras that are GenICam compliant. This talk will give an overview of the system, present its implementation and highlight the initial results obtained for the whole system in plasma operation.

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