

## **μTCA based 1kHz camera readout for beam stabilization for KALDERA at DESY**

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KALDERA is a new laser plasma accelerator (LPA) built at DESY whose key element is a kHz repetition rate. This repetition rate will enable feedback control to achieve a higher level of stability and reliability than existing LPAs operating at a repetition rate of a few hertz. But the higher repetition rate also puts new requirements for the online diagnostics, which is the prerequisite for the beam stabilization.

In our presentation, we will show the system used for the camera readout and image processing at 1 kHz repetition rate based on the DAMC-FMC2ZUP board. We will give insights into the architecture of the software and firmware used and outline the path towards closing the feedback loop.

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