

## **Insight on failures of MTCA systems installed in FLASH and EuXFEL tunnels**

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FLASH has been operated with MTCA.4-based LLRF systems since 2013 and the European XFEL since 2017. We are now starting to see some failures which could be related to the fact that these systems are placed in a radiation prone environment. This contribution aims at presenting a first insight on the impact of radiation on the MTCA.4 system. In particular, the different shielding types and the different ways of measuring radiation is shown. Correlation between hardware or firmware failures with the measured radiation is presented. Some mitigation strategies are also discussed. Other failures linked to power glitches or loss of pcie communication will also be presented.

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