

Current and upcoming challenges for data packaging of DECTRIS X-ray detectors

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DECTRIS X-Ray detectors are utilized at synchrotrons and laboratories around the world, where they strongly contribute to a growing accumulation of data. As we move toward the introduction of next-generation detectors, we expect a rise in both framerates and datarates. Our current pipelines that heavily rely the HDF5 data format and its corresponding software framework, where these pipelines have already shown limitations. These challenges are set to grow with future developments. In this presentation, we will discuss both the present difficulties and future concerns associated with high-reliability data pipelines in X-ray detectors across various applications. We will pinpoint the immediate bottlenecks we face and outline where potential future issues might arise. Our aim is simple: to initiate a meaningful discussion about key architectural decisions and to motivate the community to collaboratively address these upcoming data challenges.

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