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Pyrame3, an online framework for Calice SiW Ecal

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Pyrame3 is the new version of the Pyrame framework, with emphasize on the online data treatment and the complex tasks scripting. A new mechanism has been implemented to allow any module to treat and publish data in real time. This data is made available to any requesting module. A circular buffer mechanism allows to break the real-time constraint and to serve the slower programs in a generic subsampling way. On the other side, a programming facility called event-loop has been provided in C/C++ language to ease the development of monitoring programs. On the Ecal prototype, the acquisition chain launches a bunch of online decoders that makes available raw data plus some basic reconstruction data (true coordinate, true time, data quality tags...). With the event-loop, it is now really very easy to implement new online monitoring programs. On the other side, the scripting mechanism has been enhanced to provide complete control of the detector to the scripts. This way, we are able to script and monitor complex behaviours like position or energy scanning, calibrations or data driven reconfigurations.

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