ICALEPCS 2025 - The 20th International Conference on Accelerator and Large Experimental Physics Control Systems

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EPICS areaDetector overview and update

Tuesday 23 September 2025 13:30 (15 minutes)

areaDetector is an EPICS framework for 2-D and other types of detectors that is widely used in synchrotron and neutron facilities. An overview of areaDetector and enhancements since the last ICALEPCS presentation in 2017 will be presented. These include:
- HDF5 file writing plugin:
o Support for Blosc, lz4, bitshuffle/lz4, and JPEG compression.
o Support for Direct Chunk Write which allows directly writing precompressed NDArrays, improving performance.
- Support for automatically converting medm OPI files to CSS/Phoebus, CSS/Boy, edm, and caQtDM. The other OPI files are now included in the distribution.
- Capability for drivers to wait until all plugins are done processing before declaring acquisition to be complete.
- NDPluginCodec to compress and decompress NDArrays. Supported codecs are Blosc, lz4, bitshuffle/lz4, and JPEG. A primary application is is to transport compressed NTNDArrays using pvAccess.
- NDPluginBadPixel to flag bad pixels in NDArrays.
- New drivers detector drivers including:
o ADEiger for Dectris Eiger detectors.
o ADSpinnaker for FLIR cameras with their Spinnaker SDK.
o ADVimba for Allied Vision caneras with their Vimba SDK.
o ADGenICam base class for GenICam cameras.
o ADAravis for GenICam cameras using the open-source aravis library.
o ADEuresys for CoaXPress cameras using Eureys frame grabbers.
o ADDCAMHamamatsu for Hamamatsu cameras using their DCAM library.
- A roadmap for future developments will also be presented.

Footnotes

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