Contribution ID: **6** Type: **Plenary talk**

ADGenICam: areaDetector driver for GenICam cameras

Saturday, 5 October 2019 15:10 (20 minutes)

GenICam is a standard from the European Machine Vision Association that is widely adopted for cameras and other detectors. GenICam cameras contain an XML file that can be downloaded, and which contains a complete description of all of the features that the camera supports and how to access them. GenICam also defines the transport layer API, and supports the GigE Vision, USB3 Vision, CameraLink, and CameraLinkHS standards.

ADGenICam is a new areaDetector base class for GenICam cameras. It provides the following features:

- A Python tool to read the XML file from the camera and create an EPICS database file. It creates records for each of the features that the camera supports.
- A Python tool to read the XML file from the camera and create multiple medm adl files containing controls and readbacks for the records controlling the camera features. These adl files can be automatically converted to files for edm, CSS, and caQtDM. The ADGenICam creates the areaDetector parameter library dynamically at iocInit from the drvUser fields passed by each record. It also handles most of the work in reading and writing feature values to the camera.
- New ADAravis driver. This driver uses the aravis library. It works with any GigE, 10 GigE, or USB3 GenICam camera. It runs on most versions of Linux. This driver is designed to replace the aravisGigE driver. It is significantly smaller because much of the code is in ADGenICam.
- New ADSpinnaker driver. This driveruses the FLIR/Point Grey Spinnaker SDK. It works with their GigE, 10 GigE, or USB3 GenICam cameras. It runs on Windows and new versions of Linux, e.g. Ubuntu 18.
- New ADVimba driver. This driver uses the AVT/Prosilica Vimba SDK. It works with their GigE or USB3 GenICam cameras. It runs on Windows, and most versions of Linux, e.g. RHEL7.

Track

EPICS for data acquisition

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Session Classification: AreaDetector