

High-Level Software Frameworks at CLARA: CATAP and CLARA Software Tools

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The compact linear accelerator for research and applications (CLARA) is a 250 MeV ultrabright electron beam test facility at STFC Daresbury Laboratory. A user beamline has been designed to maximize the exploitation of CLARA in a variety of fields, including novel acceleration and new modalities of radiotherapy. The creation of high-level software for daily operation and user experiments has been essential for CLARA, relying on a set of frameworks that provide an abstraction from the EPICS-level interactions with hardware. This show and tell will demonstrate the design and architecture, as well as the philosophy, of two frameworks: CATAP (Controls Abstraction to Accelerator Physics) and CLARA Software Tools. Both of which have been developed in-house over many years and aim to reduce the replication of common procedures, data acquisition, and interfaces via a set of proven shared solutions.

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