



Contribution ID: 169

Type: ORAL

## X-CSIT: a toolkit for simulating 2D pixel detectors

*Friday, 5 September 2014 11:30 (25 minutes)*

A new, modular toolkit for creating simulations of 2D X-ray pixel detectors, X-CSIT (X-ray Camera Simulation Toolkit), is being developed. The toolkit uses three sequential simulations of detector processes including photon interactions, electron charge cloud spreading with a high charge density plasma model and many electronic components used in detector readout. In addition, because of the wide variety in pixel detector design, X-CSIT has been designed as a modular platform so that existing functions can be modified or additional functionality added easily if the specific design of a detector demands it. X-CSIT is under development at UCL for European XFEL, and will be used to create simulations of the three bespoke 2D detectors at European XFEL, AGIPD, LPD and DSSC. These simulations and X-CSIT will be integrated into the European XFEL software framework, Karabo, and through that be available to users to aid with planning of experiments and analysis of data. In addition X-CSIT will be released standalone publicly for other users, collaborations and groups to create simulations of their own detectors.

**Primary authors:** JOY, Ashley (UCL); KUSTER, Markus (European XFEL GmbH); WING, Matthew (UCL); HAUF, Steffen (European XFEL GmbH)

**Presenter:** JOY, Ashley (UCL)

**Session Classification:** Astrophysics and other Pixel Applications