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Allpix Squared - Semiconductor Detector MC Simulations for Particle Physics and Beyond

Modern semiconductor radiation detectors are highly optimized and complex devices, and precise modelling of their performance is crucial to the scientific interpretation of measurements. Allpix Squared provides an advanced solution for end-to-end Monte Carlo simulation of such detectors, comprising every step from incident radiation to processed detector data. The comprehensive documentation as well as the ease of configuration make it a tool that is widely used by the scientific community, but that is accessible enough to be useful also in the context of education at university level. Different advanced algorithms for particle-matter interaction, charge carrier motion in semiconductors and front-end digitization are provided as individual modules that are assembled to full simulation chains. Parameters such as carrier mobility, recombination models or complex electric fields are provided through user configuration files.

Speed Talks

Normal

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