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Beam telescope simulations in Allpix Squared

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Beam telescopes are used to investigate future particle detector prototypes, and to do this efficiently they must provide excellent position and time resolution at the device under test location. One of the goals of the Tangerine Project is to develop a beam telescope based on sensors created in a 65 nm CMOS imaging process. In order to study the tracking performance and choose the best geometry configuration, simulations are needed. This talk will cover all the steps needed for the simulation of a beam telescope in Allpix Squared, with a particular focus given to the Allpix Squared integration with Corryvreckan, which is a framework dedicated to reconstructing and analyzing test beam data. Finally, the first simulation results of the Tangerine telescope will be discussed.

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