## 11th Beam Telescopes and Test Beams Workshop



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## Implementation of bent pixel sensors analysis in the Corryvreckan framework

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The excellent performance of bent ALPIDE sensors has been demonstrated within the ALICE ITS3 R&D. In the corresponding analysis effort a need for simulation and reconstruction software capable of accurately handling bent sensors emerged. The Corryvreckan framework is being updated to include the ability to model bent sensor geometries, providing an important tool for bent pixel sensor beam data analysis.

In this contribution, the implementation of bent sensor geometries in Corryvreckan is discussed, which will allow the alignment of telescope-like setups and reconstruction of particle trajectories. Technical aspects related to the change of coordinate systems, correct handling of uncertainties in a cylindrical geometry and tracking with both straight lines and general broken line fits will be addressed, alongside the need for accurate geometric representations and material properties. Moreover, mechanical aspects, measurement issues and interpretation of data that stem from testbeam campaigns with bent ALPIDEs are discussed.

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