## **Conference on Computing in High Energy and Nuclear Physics**



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## Performance of the parallelized General Triplet Track Fit implemented on the GPU

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The General Triplet Track Fit (GTTF) is a generalization of the Multiple Scattering Triplet Fit [NIMA 844 (2017) 135] to additionally take hit uncertainties into account. This makes it suitable for use in collider experiments, where the position uncertainties of hits dominate for high momentum tracks. Since the GTTF is based on triplets of hits that can be processed independently, the fit is particularly suitable for acceleration with parallel hardware such as GPUs, and can therefore be used for fast track fitting in online reconstruction. The performance of the track fit and its acceleration is studied using the OpenDataDetector in traccc, a demonstrator tracking chain designed for hardware accelerators under the umbrella of the ACTS track reconstruction framework, and the results will be presented.

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