

Pixel tracks on GPUs

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Objectives

- Overall goal of the project: from RAW to pixel tracks in a GPU
 - Raw2digi, clusterizer, cluster position estimate (CPE), doublets, quadruplets, pixel track fit
 - Those highlighted with green have already a GPU implementation
- Goals for this hackathon
 - Migrate existing components (raw2cluster+CPE, quadruplets) to HeterogeneousEDProducer
 - HeterogeneousEDProducer = mini-framework prototype for including heterogenous algorithms in CMSSW (on top of “ExternalWork”)
 - Work on doublet GPU implementation
 - Port Riemann fit to GPU
 - Add minimal MC truth information along reco objects to improve assessing algo performance
 - Improve HeterogeneousEDProducer mini-framework as needs arise
 - There is a long todo/wishlist of features, possibly work on some of those