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Mock data production for pileup rejection studies in CUPID MATTIA BERETTA, University of California, Berkeley, CUPID COLLABORATION — CUPID (CUORE Upgrade with Particle IDentification) is the proposed upgrade to the tonne-scale cryogenic bolometric experiment CUORE. In order to better understand the possible performance of the CUPID detector a simulation of the data can help identify areas for optimization. In the simulation of detector performance the pulse characteristics and the electronic noise are important features to take into account. The inclusion of these features allows us to consider the effect of detector non-idealities on the analysis, enabling a full evaluation of the performance of the chosen algorithms. To accomplish this a software tool cabable of generating a simulated noise baseline with fake pulses has been developed. These mock data can be used to produce controlled sets of data useful for the validation or training of new analysis procedures. In this contribution, the developed algorithm will be presented, alongside its application to the study of pileup rejection in the CUPID experiment.

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