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GPUs for Parallel Trigger Implementation For Muon Detection

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Bachir BOUHADEF, INFN Pisa & Physics department of Pisa, On behalf of NEMO Collaboration.

Graphics Processing Units are high performance co-processors originally intended to improve the use and quality of computer graphics applications. Because of their potential, researchers have extended their use beyond the computer graphics scope. The main goal of this work is to evaluate the time benefit of using GPUs rather than CPUs for muon trigger implementation into the NEMO Trigger and Data Acquisition System (Tri-DAS). A simulation on a 16 plane Nemo Tower shows a possibility of reduced time requirements, in addition to power consumption and hardware space benefits.

Author: Dr BOUHADEF, Bachir (INFN Pisa.)

Co-authors: Dr MARINELLI, Antonio (INFN Pisa); Prof. MORGANTI, Mauro (INFN Pisa)

Presenter: Dr BOUHADEF, Bachir (INFN Pisa.)

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