Institut de recherche sur les lois fondamentales de l'univers
SÉMINAIRE

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CEA-Saclay Bât 141, salle André Berthelot

The Global Trigger and Synchronization System (GTS) of AGATA

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GTS (Global Trigger and Synchronization system) is part of the nuclear physics experiment AGATA. It is made as a tree of cards connected through gigabit optical links. Through the GTS system : - each leave of the tree receives a phase-aligned clock, and provides the clock to all downward cards - each leave has an an absolute time - each command sent by the root is received synchronously in all the leaves - the second-level trigger of the AGATA experiment is handled centrally at the root of the GTS tree (the system is built to sustain an average of 50kHz trigger requests on each of the 180 germanium crystals, and to be able to handle delayed multiplicities among up to 8 partitions of these crystals).

The GTS system has been implemented successfully on the AGATA demonstrator test in december 2008. After a general introduction, I will present the firmware I developed, focusing on the setup of the GTS tree.