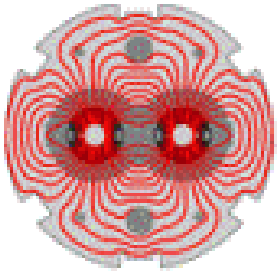

Contribution ID: **28** Type: **not specified**

Is the WorldFIP a reliable Rad-hard Fieldbus on long term?

Wednesday, 27 January 2010 18:20 (15 minutes)

The WorldFIP fieldbus was chosen to cover communication needs of critical LHC systems needing determinism and radiation tolerance. WorldFIP slaves use the MicroFIP chip produced by Alstom along with the FielDrive transceiver and associated magnetics. After Alstom announced a progressive decline in support of WorldFIP technology, BE-CO decided to start a technology in-sourcing program in order to guarantee local support of this strategic technology during the lifetime of LHC. The first phase of this program consists in designing an FPGA-based alternative to MicroFIP, called NanoFIP. In addition, the last generation of MicroFIP chips was manufactured using a newer process with reduced feature sizes and there are serious concerns about its radiation tolerance. The NanoFIP development is therefore now considered a critical part in the global strategy of providing a radiation-tolerant solution to WorldFIP users. The talk will give a brief overview of the architecture of WorldFIP as presently deployed in the LHC, identify the critical devices in terms of radiation tolerance, and show how NanoFIP will provide a solution in the close future. The status of the NanoFIP project will be reported, as well as long-term plans for the overall WorldFIP technology insourcing in BE-CO.

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