TWEPP-09 Topical Workshop on Electronics for Particle Physics

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FPGA Tools and Techniques for High Performance Digital Systems (Tutorial)

Friday 25 September 2009 14:15 (1h 30m)

This two-part tutorial will introduce the audience to FPGA tools and techniques that provide the ability to efficiently design, integrate, and test high performance digital systems. The first half of the tutorial will cover hardware design techniques and tools currently available from industry such as Xilinx ISE Foundation, PlanAhead Design Analysis, and ChipScope. The second half of the tutorial will cover advanced techniques and tools for complex digital system design, testing, and integration such as the Dataflow Interchange Format (DIF), the DSPCAD Integrative Command Line Environment (DICE), and Subversion (SVN) repositories. Tutorial participants will be introduced to tools and techniques for FPGA-based design, see examples of efficient HDL coding, testing, and integration practices, gain experience with using the tools, and. obtain an understanding of FPGA tool capabilities and challenges Although the focus of the tutorial will be on FPGA-based systems, many of the tools and techniques presented can also be used to design, test, and integrate ASICs, embedded software, and other types of digital system. No previous experience with FPGA design is required.

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