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Design of a standardized FPGA architecture for EIC common platform daughtercards

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The EIC Common Platform is a modular system architecture which will serve as the basis for the EIC Controls Systems. It consists of a SoC based carrier board with up to two independent pluggable FPGA based Daughtercards. Different types of Daughtercards have custom electronics catering to the specific needs of an application. All types of Daughtercards will have FPGA logic to support a common protocol for communication with the carrier board as well as a basic set of features for programming and telemetry. Logic to support Daughtercard specific functionality will be implemented in the same FPGA. Daughtercard FPGA projects will be organized with a common modular structure to facilitate reuse of IP cores while allowing for flexibility within the Daughtercard specific logic design. The FPGA Firmware Framework (FWK) developed at DESY will be leveraged for managing the generation and building of FPGA projects. The basic functionality and organizational structure of EIC Common Platform Daughtercard FPGA projects is presented.

Footnotes

Funding Agency

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