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ATLAS computing on the HPC Piz Daint machine

The Piz Daint Cray XC30 HPC system at CSCS, the Swiss National Supercomputing centre, is in 2014 the highest ranked European system on TOP500, also featuring GPU accelerators. Event generation and detector simulation for the ATLAS experiment has been enabled for this machine. We report on the technical solutions, performance, HPC policy challenges and possible future opportunities for HEP on extreme HPC systems. In particular a custom made integration to the ATLAS job submission system has been developed via the Advanced Resource Connector (ARC) middleware. Further, some GPU acceleration of the GEANT4 detector simulations were implemented to justify the allocation request for this machine.

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