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## GeantV alpha-release preview

*Thursday, August 24, 2017 2:00 PM (20 minutes)*

GeantV went through a thorough community discussion in the fall 2016 reviewing the project's status and strategy for sharing the R&D benefits with the LHC experiments and with the HEP simulation community in general. Following up to this discussion GeantV has engaged onto an ambitious 2-year road-path aiming to deliver a beta version that has most of the performance features of the final product, partially integrated with some of the experiment's frameworks.

The initial GeantV prototype has been re-cast into a vector-aware concurrent framework able to deliver high-density floating point computation for most of the performance-critical components such as propagation in field and physics models. Electromagnetic physics models were adapted for the specific GeantV requirements, aiming for the full demonstration of shower physics performance in the alpha release this fall. We have revisited and formalized GeantV user interfaces and helper protocols, allowing to connect to user code and provide recipes to access efficiently MC truth and generate user data in a concurrent environment.

The presentation will give a preview of the features available in the alpha release, including a new R&D for ML-driven fast simulation engine, up to date performance figures compared to Geant4 and the status of the co-processor integration.

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