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Maintenance, validation and tuning of Monte Carlo event generators for the LHC experiments in the Generator Services project

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The Generator Services project collaborates with the Monte Carlo generators authors and with the LHC experiments in order to prepare validated LCG compliant code for both the theoretical and the experimental communities at the LHC. On the one side it provides the technical support as far as the installation and the maintenance of the generators packages on the supported platforms is concerned and on the other side it participates in the physics validation of the generators.

The libraries of the Monte Carlo generators maintained within this project are currently widely adopted by the LHC collaborations and are used in large scale productions. The existing testing and validation tools are regularly used and the additional ones are being developed, in particular for the new object-oriented generators. The aim of the validation activity is also to participate in the tuning of the generators in order to provide appropriate settings for the proton-proton collisions at the LHC energy level.

This paper presents the current status and the future plans of the Generator Services project. The approach used in order to provide tested Monte Carlo generators for the LHC experiments is discussed and some of the testing and validation tools are presented.

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