

MC event generators in high-energy physics and astro-particle physics

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I will discuss the use of Monte Carlo methods in the simulation of high energy collisions between elementary particles. Such simulations, implemented in programs called Event Generators, have developed into indispensable tools for large-scale particle physics experiments such as the LHC at CERN. In particular, I will concentrate on the modeling of so-called parton showers, where a large number of particles are produced and described in an approximate way, and its interplay with the generation of few-particle states where more exact methods can be used.

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