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Precision Event Simulation for Hadron Colliders

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Hadron colliders are workhorses of particle physics, enabling scientific breakthroughs such as the discovery of the Higgs boson. Hadron beams reach the highest energies, but they also produce very complex collisions. Studying the underlying dynamics requires involved multi-particle calculations. Over the past decades Monte-Carlo simulation programs were developed to tackle this task. They have by now evolved into precision tools for theorists and experimenters alike. This talk will give an introduction to event generators and discuss the current status of development.