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Sommario/riassunto	<p>The CMS object oriented Geant4-based program is used to simulate the complete central CMS detector (over 1 million geometrical volumes) and the forward systems such as the Totem telescopes, Castor calorimeter, zero degree calorimeter, Roman pots, and the luminosity monitor. The simulation utilizes the full set of electromagnetic and hadronic physics processes provided by Geant4 and detailed particle tracking in the 4 tesla magnetic field. Electromagnetic shower parameterization can be used instead of full tracking of high-energy electrons and positrons, allowing significant gains in speed without detrimental precision losses. The simulation physics has been validated by comparisons with test beam data and previous simulation results. The system has been in production for almost two years and has delivered over 100 million events for various LHC physics channels. Productions are run on the US and EU grids at a rate of 3-5 million events per month. At the same time, the simulation has evolved to fulfill emerging requirements for new physics simulations, including very large heavy ion events and a variety of SUSY scenarios. The software has also undergone major technical upgrades. The framework and core services have been ported to the new CMS offline software architecture and event data model. In parallel, the program is subjected</p>

to ever more stringent quality assurance procedures, including a recently commissioned automated physics validation suite.
