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Electroweak Baryogenesis and the LHC

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It is not known how to explain the excess of matter over antimatter with the Standard Model. This matter asymmetry can be accounted for in certain extensions of the Standard Model through the mechanism of electroweak baryogenesis (EWBG), in which the extra baryons are created in the early Universe during the electroweak phase transition. In this talk I will review EWBG, connect it to theories of new physics beyond the Standard Model, and show that in many cases the new particles and interactions required for efficient EWBG can be discovered using existing and expected data from the LHC.

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