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Beyond Standard Model physics at the Large Hadron Collider

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The Higgs boson, discovered at the Large Hadron Collider, completed the Standard Model puzzle. However, we still cannot explain why the Higgs boson is as light as it is. Nor can we explain the evolution of the nascent universe right after its big bang birth. That is when matter and anti-matter almost entirely annihilated each other, leaving behind an exceedingly small excess of matter that makes up our world today. The Large Hadron Collider addresses these questions by taking us back all the way to 10-100 picoseconds after the big bang. LHC's treasure-trove of proton-proton collision data could allow us to better understand the mysteries of the nascent universe and the Higgs mass. I will describe how the ATLAS and CMS experiments at the LHC are using this data to confront novel theories that go Beyond Standard Model to explain these mysteries.