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The Coming Revolution in Particle Physics

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Mysteries about the composition of our universe at its most fundamental level are fueling a revolution in particle physics. The nature of dark matter and dark energy, the disparity in gauge boson masses, the absence of primordial antimatter, and other observations make for an exciting period of likely discovery in the field. The physics program at the Large Hadron Collider (LHC) is one of the most likely venues for new discoveries that may shed light on these and other phenomena. I will present an overview of the ATLAS experiment at the LHC and highlight a few examples of profoundly new views of the character of space and time that are predicted to reveal themselves in the early running period.