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### **Theory and Status of Lorentz Violation**

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Einstein's theories of special and general relativity are a key component of our best existing description of nature at the fundamental level. However, tiny deviations from the laws of relativity could arise from a unified theory of quantum physics and gravity. The resulting experimental effects are described by a theory called the Standard-Model Extension. The SME predicts observable signals now being sought in a variety of experiments using high-sensitivity AMO techniques. In this talk, some basic ideas about relativity violations will be described and a status report on the experimental searches will be given.