

Einstein Lectures

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The Search for a Unified Field Theory

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Abstract

Einstein spent much of his scientific career in attempts to construct a unified field theory: a theory so fundamental that all of physics would follow. More precisely, most of these efforts attempted to derive the equations of electrodynamics from a geometric theory like general relativity. Since then, physicists have made great strides toward a "unified theory," in a somewhat different sense. Ironically, the least satisfactory aspect of this effort has been the attempt to incorporate the gravitational force described by general relativity. I will discuss these modern unified theories, as well as the status of string theory, widely considered the most likely candidate for a way to complete the unification effort by incorporating gravity.