An excursion in Lorentzian Geometry: from linear algebra to the structure of the universe

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007 Kemeny Hall, 4:00 pm
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Abstract

Lorentzian Geometry is a part of Differential Geometry which lies between classical Riemannian Geometry and General Relativity. The former provides its starting point, and the latter yields new ideas and inspiration. Starting at linear approximations to the structure of physical space and time, we will see how Lorentzian Geometry provides the mathematical framework for relativistic spacetimes. Moreover, it provides strong results which become relevant from the mathematical, the physical, and the philosophical viewpoints.

This talk should be accessible to graduate students.