General Relativity and Quantum Cosmology

A Consistent Gravitationally-Coupled Spin-2 Field Theory

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Inspired in teleparallel gravity, instead of being represented by a symmetric second-rank tensor, a fundamental spin-2 field is assumed to be represented by a spacetime (world) vector field assuming values in the Lie algebra of the translation group. The flat-space theory naturally emerges in the Fierz formalism, and is both gauge and local Lorentz invariant. The corresponding gravitationally-coupled theory is shown not to present the consistency problems of the usual spin-2 theory constructed on the basis of general relativity.

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