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ENERGY AS FIFTH DIMENSION

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Abstract

A recent analysis of the experimental data on some physical phenomena ruled by the four fundamental interactions (electromagnetic, weak, strong and gravitational) seems to show the possibility of describing such interactions in terms of a deformation of the usual Minkowski spacetime, with a metric whose coefficients do depend on the energy of the process considered. In this paper, we show that such results can be accounted for in terms of a Kaluza-Klein-like scheme, based on a five-dimensional Riemannian space in which energy plays the role of the fifth dimension. The corresponding five-dimensional Einstein equations in vacuum are solved in some cases of physical relevance and it is