Global Solutions of Einstein-Dirac Equation on the Conformal Space

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Abstract: The difference between the Riemann and Lorentz spinor manifolds of four dimensions is that the Dirac operator of the former is elliptic and that of the latter is hyperbolic. Moreover the spinor group of the former is a compact group and that of the latter is a noncompact group, which is isomorphic to SL(2,C). Hence the results and their interpretation coming from the two theories would be different. In this short note we study only the Lorentz spinor manifold and, especially, the solutions of Einstein-Dirac equations on the conformal space, which is closely related to the AdS/CFT correspondence.

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