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CONSISTENT REDUCTIONS OF M-THEORY

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Abstract

We introduce a universal consistent truncation of 11D supergravity on a generic 7D tri-Sasakian manifold to a 4D gauged supergravity theory with 16 supercharges ($N = 4$). A truncation is called consistent if every solution of the truncated theory lifts to an exact solution of the full theory. We briefly talk about some interesting properties of this 4D theory, like its non-abelian gauge group, containing the compact factor $SO(3)$, its vacuum solutions and its possible applications to the AdS/condensed matter correspondence. We then introduce further consistent reductions on 7D coset manifolds to 4D gauged supergravities with 8 supercharges ($N = 2$). These theories can have properties that do not appear in the more studied $N = 2$ reductions of type II supergravity, like gauging of the vector multiplets.

Date : Wednesday, June 6, 2012

Time: 11:00

Place: IMBM Seminar Room, Boğaziçi University South Campus