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Near-horizon geometry from flux compactification

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Abstract content

We study the conditions an arbitrary flux compactification must fulfill in order to construct a 4d space-time of the type $AdS_2 \times S^2$ from a type IIB supergravity flux compactification in which Neveu-Schwarz-Neveu-Schwarz (NS-NS) fluxes are included. We present a solution consisting on a compactification in the presence of 3-form NS-NS and Ramond-Ramond (RR) fluxes. The internal manifold is a $SU(3)$ structure six-dimensional manifold, with null curvature and with torsion. By preserving two supersymmetries in the four-dimensional low energy theory, we find a way to obtain the $AdS_2 \times S^2$ geometry as a near-horizon solution by compactification in non-Calabi-Yau manifolds.

Summary

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