

Abstract Submitted
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Biconformal Compactification BENJAMIN LOVELADY, JAMES WHEELER, Utah State Univ — The gauging of the conformal group of n -dim Euclidean space by the homogenous Weyl group leads to a principal bundle known as biconformal space. Time arises naturally on a $2n$ -dimensional symplectic manifold with $SO(n)$ spanning the fibers. These spaces allow a scale-invariant first-order gravity action, making them ideal candidates for quantizable gravity. We investigate the effect of including m compact dimensions beyond the 4 of spacetime. This gives $2m$ extra dimensions on the symplectic manifold that need to be compactified. Various compactifications lead to different fields, but for $m=1,2$ the set of compactifications is countable.

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