

Abstract Submitted  
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**The relativistic infinite plane** PRESTON JONES, University of Louisiana Monroe — In general relativity there have been several proposals as to what constitutes a uniform field. We give the gravitational field due to an infinite plane with finite mass per unit area, and show that this is the closest general relativistic analog to the Newtonian uniform field. Although we work in 4D we show that the 5D generalization of this solution is the starting point for many current research papers in particle physics and cosmology dealing with infinite extra dimension theories known as brane world models. This physical picture of the brane world models as higher dimensional versions of the general relativistic plane allows one to understand many of the features of these models in simple terms.

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