

Abstract Submitted  
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**Standing gravitational waves from domain walls**<sup>1</sup> DOUGLAS SINGLETON, California State University, Fresno, MERAB GOGBERASHVILI, Andronikashvili Institute of Physics, SHYNARAY MYRZAKUL, Gumilev Eurasian National University — We construct a plane symmetric, standing gravitational wave for a domain wall plus a massless scalar field. The scalar field can be associated with a fluid which has the properties of “stiff” matter, i.e., matter in which the speed of sound equals the speed of light. Although domain walls are observationally ruled out in the present era, the solution has interesting features which might shed light on the character of exact nonlinear wave solutions to Einstein’s equations. Additionally this solution may act as a template for higher dimensional “brane-world” model standing waves.

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Douglas Singleton  
California State University, Fresno

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