

Abstract Submitted  
for the TSF12 Meeting of  
The American Physical Society

**Dilution factor measurement setup for a vibrating steel string<sup>1</sup>**

MOISES CASTILLO, TREVOR GUSTON, CADE DANIEL, Department of Physics and Astronomy and Center for Gravitational Wave Astronomy, University of Texas at Brownsville, Brownsville, Texas 78520 USA, JOE AVILA, JUAN VAZQUEZ, Department of Engineering, University of Texas at Brownsville, Brownsville, Texas 78520 USA, GIANPIETRO CAGNOLI, Laboratoire des Matériaux Avancés, Université Claude Bernard Lyon 1, Campus de la DOUA, Villeurbanne Cedex 69622 France, MARIO DIAZ, Department of Physics and Astronomy and Center for Gravitational Wave Astronomy, University of Texas at Brownsville, Brownsville, Texas 78520 USA — Measurements of mechanical losses have been done in the past in configurations parallel and perpendicular to the gravitational potential of earth with different sample shapes. Gravity will modify the quality factor of resonances when the restoring force depends on it, like in a pendulum. The proposed configuration used for this experiment involves a steel string under tension. The restoring force will be due to the tension rather than gravity. The goal is to quantify the relation between the tension of a steel string and its quality factor for varied resonant modes.

<sup>1</sup>Support for this work came from Center for Gravitational Wave Astronomy (CGWA) and grants NASA # NNX09AV06A and NSF # HRD0734800.

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Date submitted: 24 Sep 2012

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