

Abstract Submitted
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Capacitive sensor setup for Creep rate measurement on hydroxide-catalysis bonded silica ears KARLA RAMIREZ, MOISES CASTILLO, University of Texas at Brownsville, ADAN ANCHONDO, University of Texas at El Paso, GIANPIETRO CAGNOLI, Laboratoire des Matériaux Avancés Bâtiment Virgo, MARIO DIAZ, University of Texas at Brownsville — Analysis of the GEO600 detector data has not shown any evidence of the existence of creep caused by hydroxide catalysis bonds in the mirror suspensions above the measurement sensitivity. Measuring directly the bond creep noise on samples of advanced detectors such as aLigo is a prudent research step. A system for direct detection of creep at a higher sensitivity is being design and mounted close to a set of aLIGO prototype test masses. Such system is based on capacitive sensors, which are used to measure any displacement either linear or rotational. This capacitive sensors are based on the electrical capacitance dependence of a conductor due to the distance from a dielectric body. A set of thermistors able to measure changes in temperature also form part of this setup. The goal is to be able to prove the presence of creep on the bonding used in the aLigo suspension test masses, and if such creep noise is presented find what produce it.

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