

Abstract Submitted
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Signal verification with blackbody photons for the Fermilab Holometer BRITTANY KAMAI, Vanderbilt University, FERMILAB HOLOMETER COLLABORATION — The Holometer, an instrument that consists of two proximate power-recycled laser interferometers, is used to test for the presence of a new type of position noise. The predicted noise signal, from a quantum-geometrical theory, is that two interferometers can measure correlated position noise in the light output of the each interferometer. Verification of the ability to correctly detect small correlations in a noisy signal can be done using blackbody photons passing through a beamsplitter. The correlated intensity variations from a blackbody emitter will be used to test the Holometer photodiodes, electronics and front-end software. We will describe the verification equipment and procedure. Science runs for the Holometer will commence in early 2015.

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