



Contribution ID: 13

Type: not specified

The interaction of gravitational radiation with electron-coated superfluid helium drops: A progress report on experiments at UC Merced

Monday 27 August 2007 15:30 (45 minutes)

Pairs of Planck-mass-scale drops of superfluid helium coated by electrons, when levitated in the presence of strong magnetic fields and at low temperatures, can be efficient quantum transducers between electromagnetic (EM) and gravitational (GR) radiation. A Hertz-like experiment, in which EM waves (microwaves) are converted at the source into GR waves, and then back-converted at the receiver from GR waves back into EM waves, is being performed at UC Merced. This would open up observations of the gravity-wave analog of the CMB from the extremely early Big Bang, and also communications directly through the interior of the Earth.

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Session Classification: Causality and Signal Propagation