High Energy Physics - Theory

Boundary stress tensors for spherically symmetric conformal Rindler observers

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(Submitted on 26 Jan 2010 (v1), last revised 2 Feb 2010 (this version, v2))

The boundary energy - momentum tensors for a static observer in the conformally flat Rindler geometry are considered. We found the surface energy is positive far form the Planck world but the transversal pressures are negative. The kinematical parameters associated to a nongeodesic congruence of static observers are computed. The entropy S corresponding to the degrees of freedom on the two surface of constant ρ and t equals the horizon entropy of a black hole with a time dependent mass and the Padmanabhan expression $E = 2 S T$ is obeyed. The two surface shear tensor is vanishing but the coefficient of the bulk viscosity ζ is $1/16 \pi$ and therefore the negative pressure due to it acts as a surface tension.

Comments:	9 pages, no figures, references added, typos corrected
Subjects:	**High Energy Physics - Theory (hep-th)**; General Relativity and Quantum Cosmology (gr-qc)
Cite as:	**arXiv:1001.4740v2 [hep-th]**

Submission history

From: Hristu Culetu [view email]
[v1] Tue, 26 Jan 2010 16:45:44 GMT (8kb)
[v2] Tue, 2 Feb 2010 13:59:31 GMT (8kb)

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