Quantum Physics

A short remark on negative energy densities and quantum inequalities

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In quantum field theory it is generally known that the energy density may be negative at a given point in spacetime. A number of papers have shown that there is a restriction on this energy density which is called a quantum inequality (QI). A QI is the lower bound to the "weighted average" of the energy density at a given point integrated over a time dependent sampling function. In this paper we give an example of a sampling function for which there is no QI.

Comments:	Corrected typo in Eq. 2.5
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