

Abstract Submitted
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A conflict of quantum predictions related to the equivalence principle STEVE WILBURN, DOUG SINGLETON, CSU Fresno — We compare the response function of an Unruh-DeWitt detector for different space-times and different vacua and show that there is a *detailed* violation of the equivalence principle. In particular comparing the response of an accelerating detector to a detector at rest in a Schwarzschild space-time we find that both detectors register thermal radiation, but for a given acceleration the fixed detector in the Schwarzschild space-time measures a higher temperature. This allows one to locally distinguish the two cases. As one approaches the horizon the two temperatures have the same limit so that the equivalence principle is restored at the horizon.

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