

A Hunter-McCabe - The Unruh Effect and Shaking Photons From the Vacuum

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Acceleration radiation—or Unruh radiation—the thermal radiation observed by an ever-accelerating observer or detector, although having similarities to Hawking radiation, so far has proved extremely challenging to observe experimentally. One recent suggestion is that, in the presence of a mirror, constant acceleration of an atom in its ground state can excite the atom while at the same time cause it to emit a photon in an Unruh-type process. In this talk I will give a brief introduction to the Unruh effect and will discuss work my collaborators and I did to show that merely by shaking the atom, in simple harmonic motion for example, can have the same effect and stimulate photon emission.