Complete and Partial Transfer of Energy in Bremsstrahlung Should Include Rotational and Vibrational Kinetic Energies STEWART BREKKE, Northeastern Illinois University (former grad student) — In complete braking achievement the rotational and vibrational as well as the linear kinetic energies of the charged particle results in a photon: $h\nu = 1/2mv^2 + 1/2I\omega^2 + 1/2kx^2$. In partial transfer of kinetic energies of the deccelerating particle the resulting photon is $h\nu = [(1/2mv^2)_1 + (1/2I\omega^2)_1 + (1/2kx^2)_1] - [(1/2mv^2)_2 + (1/2I\omega^2)_2 + (1/2kx^2)_2]$. The linear kinetic energy of the charged particle is $1/2mv^2$, the rotational kinetic energy is $1/2I\omega^2$ and the vibrational kinetic energy is given by $1/2kx^2$.

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