

Abstract Submitted
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Partial and Complete Transfer of Energy in Bremsstrahlung Must Include Spin and Vibrational Kinetic Energies STEWART BREKKE¹, Northeastern Illinois University — When complete braking is achieved, the spin and vibrational kinetic energies as well as linear kinetic energy is transferred to the resulting photon: $h\nu = 1/2mv^2 + 1/2I\omega_r^2 + (n + 1/2)\hbar\omega_v$ If partial transfer of kinetic energy is achieved by decelerating a charged particle, then the resulting photon is $[1/2mv_2^2 + 1/2I\omega_{r2}^2 + (n + 1/2)\hbar\omega_{v2}] - [1/2mv_1^2 + 1/2I\omega_{r1}^2 + (n + 1/2)\hbar\omega_{v1}]$. $1/2I\omega_r^2$ is the spin kinetic energy and $(n + 1/2)\hbar\omega_v$ is the vibrational kinetic energy. By using the spin and vibrational factors some reconciliation of experimental and theoretical values can be achieved.

¹previous paper at March 07 meeting

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