Quantized Energy Spectrum of a Linear Classical Harmonic Oscillator in Classical Electromagnetic Zero-Point Radiation[1] WAYNE HUANG, HERMAN BATELAAN, University of Nebraska-Lincoln — Since the early development of Quantum Mechanics, the discrete atomic spectra have been considered as the defining feature of Quantum Mechanics. However, when the classical electromagnetic zero-point radiation is introduced as a modification to Classical Mechanics, our simulation shows that a linear classical harmonic oscillator, when excited by a laser pulse, can exhibit an integer spaced energy spectrum just as its quantum counterpart. This finding may be surprising given the use of a fully classical theory, and it may help us identify the true quantum features in physical systems such as harmonic oscillator and ultimately atoms.

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