TRAPPED ELECTRON STOCHASTICITY
BY FREQUENCY-MODULATED WAVES

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Abstract

It is shown that for electrons trapped in a static potential a finite amplitude frequency-modulated wave induces stochastic motions (and diffusion) in electron orbits over a significantly larger area of phase-space than a single frequency wave of the same amplitude. The wavelength of the FM fields is unimportant if it is greater than twice the width of the static potential. It is proposed that this be used for pumping of mirror trapped electrons to enhance the confining potential in a tandem mirror cell.