

Abstract Submitted
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Excitation of surface dipole and solenoidal modes on toroidal structures MARK JACK, MARIO ENCINOSA, Florida A&M University — The time-dependent Schrodinger equation inclusive of curvature effects is developed for a spinless electron constrained to motion on a toroidal surface and subjected to circularly and linearly polarized waves in the microwave regime. A seven-state basis set is employed with the goal of determining the character of the surface currents as the system is driven at a resonance frequency that selects for a solenoidal mode. Trajectory methods are used as a means of visualizing the character of the induced surface currents. Optical transitions into solenoidal modes of excitation can be observed.

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