## Finite beta effects on the excitation of GAMs by drift waves<sup>\*</sup>.

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Linear geodesic acoustic modes (GAMs) are primarily electrostatic. As has been shown recently, these modes can be excited nonlinearly by coupling to electron drift waves<sup>a</sup>. We extend our earlier calculations, in which a GAM was excited by resonant coupling to two electrostatic drift waves, to include finite beta effects. The electromagnetic drift waves can excite GAMs with a zonal field. This field in fact introduces a threshold condition for the excitation of the nonlinear electromagnetic GAM. The most significant finite beta effect occurs in the edge region of toroidal plasmas, where the steep density gradients can make the magnitude of the drift frequency become comparable to the shear Alfven frequency.

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