

Abstract Submitted  
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**Local and nonlocal parametric excitation of GAMs by finite beta drift waves**<sup>1</sup> PARVEZ GUZDAR, ROBERT KLEVA, University of Maryland, College Park, MD, USA, NIKHIL CHAKRABARTI, Saha Institute of Nuclear Physics, Kolkata, India, PREDHIMAN KAW, Institute for Plasma Research, Gandhinagar, India, VOLKER NAULIN, JENS RASMUSSEN, Assoc. EURATOM, Risoe DTU, Roskilde, Denmark — The geodesic acoustic modes (GAMs) can be excited in the edge region of toroidal plasmas by mode coupling to primary modes like the drift waves. We will present mode coupling analysis of the excitation of GAMs by finite beta drift waves. The finite beta effects stabilize the excitation of GAMs. The nonlocal study of the excitation of these modes leads to a complex eigenmode equation which yield bounded solutions on the edge density and temperature pedestals. The solutions show a two scale structure in which the fast scale is dictated by the three-wave frequency resonance condition, while the slow scale is determined by the combination of the edge density and/or temperature scales as well as the ion larmor radius.

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