

Abstract Submitted  
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**Excitation of geodesic acoustic modes by drift waves and ion temperature gradient modes**<sup>1</sup> PARVEZ GUZDAR, IREAP, University of Maryland, College Park MD, USA, NIKHIL CHARABARTI, Saha Institute of Nuclear Research, Kolkata, India, RAGHVENDRA SINGH, PREDHIMAN KAW, IPR, Gandhinagar, India — We will present mode-coupling analysis for the nonlinear excitation of the geodesic acoustic modes (GAMs) in tokamak plasmas by drift waves as well as toroidal ion temperature gradient (ITG) modes. Both these studies indicate that a coherent three-wave interaction is the primary process by which GAMs can be excited. Furthermore the frequency matching condition provides a prediction of the characteristic radial scale-length of GAMs which is in reasonable agreement with observations and simulations. The study also indicates why GAMs are preferentially excited in the edge region of toroidal magnetic confinement devices.

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