

Abstract Submitted  
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**Preferential Excitation of Stellar Oscillations of a Magnetar with a Tangled Magnetic Field**<sup>1</sup> JOSEPH BRETZ, ANTHONY VAN EYSDEN, BENNETT LINK, Montana State University — Magnetars are strongly magnetized ( $\sim 10^{15}$  Gauss) neutron stars. Some of them produce giant flares that exhibit quasi-periodic oscillations which have been attributed to stellar oscillations that modulate the emission. A tangled magnetic field model introduces a spectrum of magnetic normal modes that can explain the observed quasi-periodic oscillations, as expected from stability considerations. We show that reasonable initial conditions preferentially excite stellar oscillations, and find promising agreement with data.

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