Abstract Submitted
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Effects of Temperature Gradients on Transverse Oscillations of Solar Magnetic Flux Tubes[1] SHILPA SUBRAMANIAM, ZDZISLAW MUSIELAK, University of Texas at Arlington, REINER HAMMER, Kiepenheuer-Institut fur Sonnenphysik — Propagation of transverse waves along thin magnetic flux tubes embedded in an isothermal atmosphere is affected by the cutoff frequency, which is a global quantity that restricts the wave propagation to only those frequencies that are higher than the cutoff. The tubes respond to freely propagating waves by oscillating at the cutoff frequency. Since the solar atmosphere is not isothermal, the effects of different temperature gradients on the cutoff are investigated. It is shown that the cutoff frequency in a non-isothermal atmosphere becomes a local quantity and its physical meaning is different than the global cutoff. The obtained results are used to explain the observed frequencies of oscillations of solar magnetic flux tubes.

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