

## Accepted Manuscript

Effect of magneto-elasticity, hydrostatic stress and gravity on Rayleigh waves in a hydrostatic stressed magneto-elastic crystalline medium over a gravitating half-space with sliding contact

Parvez Alam, Santimoy Kundu, Shishir Gupta

PII: S0093-6413(17)30473-1  
DOI: [10.1016/j.mechrescom.2018.02.001](https://doi.org/10.1016/j.mechrescom.2018.02.001)  
Reference: MRC 3252



To appear in: *Mechanics Research Communications*

Received date: 27 August 2017  
Revised date: 5 January 2018  
Accepted date: 2 February 2018

Please cite this article as: Parvez Alam, Santimoy Kundu, Shishir Gupta, Effect of magneto-elasticity, hydrostatic stress and gravity on Rayleigh waves in a hydrostatic stressed magneto-elastic crystalline medium over a gravitating half-space with sliding contact, *Mechanics Research Communications* (2018), doi: [10.1016/j.mechrescom.2018.02.001](https://doi.org/10.1016/j.mechrescom.2018.02.001)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Highlights**

- Behaviour of Rayleigh wave propagation in a hydrostatic stressed magneto-elastic crystalline medium over a gravitating half-space with sliding common interface is analysed.
- Numerical examples for the crystalline medium based on orientation symmetries, such as triclinic Vosges sandstone, monoclinic Coesite, orthotropic Rochelle salt and simply isotropic have been considered for the study.
- Effects of magneto-elastic coupling parameter, hydrostatic stress parameter and Biots Gravity parameter on the phase velocity of Rayleigh wave propagating through the different crystalline media are analysed and illustrated graphically.
- A small change in magneto-elastic coupling parameter, hydrostatic stress parameter and Biots Gravity parameter brings significant change in the phase velocity of Rayleigh wave.
- Numerical computations and graphical illustrations have been performed to set forth the analytical findings of parametric effects on the Rayleigh wave propagation in the different crystalline media comparatively.

Download English Version:

<https://daneshyari.com/en/article/7178773>

Download Persian Version:

<https://daneshyari.com/article/7178773>

[Daneshyari.com](https://daneshyari.com)