

# **Geometric effects on the symmetric and anti-symmetric surface waves in a Lorentzian dusty plasma slab**

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We have investigated the geometrical effects on the dust acoustic surface waves propagating at the interface of the Lorentzian dusty plasma slab and the vacuum. The dispersion relation is kinetically derived by applying the spectral reflection conditions. There exist two modes for the wave in slab geometry: the symmetric and the anti-symmetric mode. The symmetric mode is found to have higher phase velocity than the anti-symmetric counterpart, especially, for small wave numbers. We also found that the wave frequency of the symmetric mode is enhanced as the slab thickness is decreased, whereas the anti-symmetric mode behaves oppositely.