

## Transverse Waves of Magnetization in Dark Star-Forming Magnetic Molecular Clouds

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We consider a model of magnetic molecular cloud threaded by regular magnetic field whose internal structure is dominated by filamentary agglomeration of magnetic particles aligned in the direction of the uniform field.

The long-ranged filamentary ordering of grains is thought of as an effect of soft solidification of magnetic cloud imparting to interstellar gas-dust soft matter the mechanical flexibility typical of single-axis magnetoelastic magnetics. It is shown that magnetic interstellar medium possessing the above properties can transmit perturbations by transverse waves of magnetization which can be regarded as a counterpart of hydromagnetic Alfvén's waves in an incompressible conducting non-magnetic fluid. The suggested magnetoelastodynamical approach can be worth of consideration in the study of internal motions of interstellar medium constituting deep interior of star-forming molecular clouds where the effects of convective conductivity are heavily suppressed.