[P43] Propagation of Nonlinear Magnetosonic Waves

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We perform simulations of propagation of nonlinear magnetosonic waves using one and two dimensional MHD codes of Total Variation Diminishing(TVD) scheme. A magnetosonic wave is a longitudinal wave propagating perpendicularly to the magnetic field lines, and involves compression and rarefaction of the magnetic field lines and the plasma. We first confirm the theoretical solution of Lee and Kim (2000) for the evolution of nonlinear magnetosonic waves in the homogeneous space. We then extend our simulations to magnetosonic waves in one-dimensional inhomogeneous space and in two-dimensional homogeneous space that are triggered by a localized impulse.

[P44] HERO study in the CDFS

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Extremely Red Objects(EROs) are objects with red optical-IR colors (R-K)>5mag. The reddest EROs have NIR color (J-K)>3, and they are named HEROs(Hyper Extremely Red Objects). HEROs are most likley to be old galaxies or dusty starforming galaxies at z > 2 . We have identified EROs and HEROs in the region called CDFS(Chandra Deep Field South), using NIR data from Very Large Telescope(VLT) catalog of the Great Observatories Origins Deep Survey(GOODS). For the CDFS, deep HST images are available. In order to tell if HEROs are old or dusty objects, we studied morphological properties of these mysterious objects via quantitative method using the HST data. Also, we have constructed the spectral energy distribution of HEROs, and examined how the shape of the SEDs correlates with their morphology. We will present these results in this poster, and discuss the implication of our results on the formation history of massive galaxies.