

Abstract Submitted
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A design of the MHD stable axisymmetric mirror. ISAO KATANUMA, Univ of Tsukuba — It has been 35 years since the GAMMA10 tandem mirror was built. So recently PRC group is planning the construction of next linear device to perform the divertor experiment by using its endloss flux. One candidate device is considered to be a single axisymmetric mirror. The reasons are that the axisymmetric mirror has attractive features on a collaboration with the mirror community and a future mirror fusion device as well as the construction costs of pancake coils are lower than the base-ball coils. The axisymmetric mirror stabilizes the interchange modes with the help of large ion endloss flux just like gas dynamic trap (GDT) and sloshing ions (its peak is located at the magnetic field line good curvature) by using the heating system. Here the large endloss flux is needed to perform the divertor experiment. The axisymmetric mirror is also planning to make use of the azimuthal plasma flow shear to suppress the interchange instabilities. This flow shear is realized by making the radial electric field, which is similar to the vortex confinement of recent GDT[1]. [1] A.Beklemishev, et.al., Fusion Sci. Tech. 57, 351 (2010).

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