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Large scale standing slow mode structures in MHD simulations of the hermean magnetosphere

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Standing slow mode compressional fronts are seen to form upstream of the day side magnetopause in MHD simulations of Mercury's magnetosphere. These fronts are seen to form upstream of the portions of the magnetopause characterized by a near reversal of the magnetic field orientation. Their role is to bend the magnetosheath field lines towards the magnetopause. Besides these compressional fronts, already observed in space and theoretically discussed by various authors for the case of the Earth, large scale slow mode rarefaction waves are also seen to form in most parts of the magnetosheath. The rarefaction waves are essential to divert the interplanetary magnetic field lines and the solar wind plasma flow around the magnetopause.