Rossitsa Miteva, Ivan Zhelyazkov. PARALLEL PROPAGATION OF SURFACE HALL-MHD WAVES ALONG AN IDEAL FLOWING PLASMA SLAB BOUNDED BY FLOWING PLASMA ENVIRONMENT

The parallel propagation of magnetohydrodynamic (MHD) surface waves along an ideal flowing plasma slab, bounded by flowing plasma environment in the Hall magnetohydrodynamics approach is investigated. The magnitudes of the plasma velocity and density inside and outside the slab are different. Two possible directions of the relative velocity (in a frame of reference co-moving with the ambient flow) are considered. The inclusion of the steady flow outside the slab changes the dispersion characteristics of the surface waves travelling along the flowing slab in comparison with the case when the external medium is at rest. From the two kind surface wave modes that may occur, notably *sausage* and *kink*, the dispersion behaviour of the kink mode along the relative flow turns out to be much more complex than that of the sausage mode.

Keywords: Hall-MHD waves, solar-wind plasma, flow-tube structures.
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