ZEBRA-LIKE PATTERNS IN WHISTLER WAVE EMISSION SPECTRA FROM NONEQUILIBRIUM MIRROR-CONFINED LABORATORY PLASMA*

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Zebra-like patterns have been observed in the electron cyclotron emission spectra from strongly nonequilibrium plasma confined in a table-top mirror magnetic trap. The analysis of the experimental data suggests that the formation of zebra-like patterns could eventually be related to modulation of the whistler waves by the ion-acoustic waves excited during the abrupt ejection of electrons into a loss cone caused by the development of the whistler instability under the electron cyclotron resonance condition.

This research may be of interest in the context of a laboratory modeling of non-stationary processes of wave-particle interactions in space plasma, since there are a lot of open questions about the origin of some types of emissions in space cyclotron masers, especially mechanisms of fine spectral structure

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