

Abstract Submitted
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Macro-scale instability of ion shell distribution function and peculiarity of the solar wind turbulence spectra VALENTIN SHEVCHENKO, VITALY GALINSKY, UCSD, ROALD SAGDEEV, University of Maryland — The ion shell velocity distribution function formed due to resonant cyclotron interaction with Alfvén waves in the divergent solar wind is unstable with respect to excitation of Alfvén waves with smaller phase velocity at larger distances from the Sun - the macro-scale instability of ion shell distribution [1,2]. It is shown that this instability is responsible for the “clear peak” between the inertial and absorption regions in power spectra of the solar wind wave fluctuations propagating parallel to the magnetic field that was recently revealed in observations [3].

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- [3] R.T. Wicks et al., Mon. Not. R. Astron. Soc., 407, L31, 2010.

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