

# **'PRIMING' MECHANISM FOR THE 2-3 KHZ HELIOSPHERIC RADIATION BY MAGNETIC FIELD RECONNECTION IN THE HELIOSHEATH**

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Mechanisms invoked to explain the 2-3 kHz heliospheric emissions presume presence in vicinity of the heliopause of 'primed' electrons, i.e. hot enough ( $> \text{keV}$ ) to excite Langmuir oscillations, possibly by prior beam formation on magnetic field lines tangent to shock waves induced by bursts of solar activity. We propose a new mechanism for the emergence of 'primed' electrons, based on stochastic Fermi type I acceleration on a high spatial density of random reconnection exhausts resulting from 'pathological' folding of the heliospheric current sheets in the vicinity of the heliopause. Our mechanism enables necessary electron acceleration and therefore leads to presence of 'primed' electrons on the inner side of the heliopause with expected positive gradient of background density, which explains the 'rising tones' of the time-dependent 2-3 kHz emissions as an effect of shock wave approach to the heliopause.

reconnection, electron acceleration

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