

Abstract Submitted
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On Origin of Low Frequency Oscillations in Ionosphere

SWASTIKA CHATTERJEE, SUDIP SEN, Physics Department, Delhi University, Delhi 110007, India — The origin of the observed low frequency oscillations in the ionosphere is a subject of much discussions in recent times. It is usually believed that the sheared parallel flow excites many plasma instabilities and these are responsible for the observed oscillations in the ionosphere. However, in this work we show that taking parallel curvature (second radial derivative) into account can change the picture all together. Parallel flow now (depending on the sign of the flow curvature) can act to stabilize or destabilize the modes. The theory of the origin of the low frequency oscillations therefore needs to be revisited in the new scenario.

Sudip Sen
Physics Department, Delhi University, Delhi 110007, India

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