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Formation of wave packets in the Ostrovsky equation for both normal and anomalous dispersion

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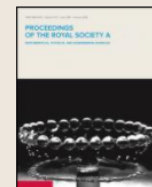
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Abstract

It is well known that the Ostrovsky equation with normal dispersion does not support steady solitary waves. An initial Korteweg–de Vries solitary wave decays adiabatically through the radiation of long waves and is eventually replaced by an envelope solitary wave whose carrier wave and envelope move with different velocities (phase and group velocities correspondingly). Here, we examine the same initial condition for the Ostrovsky equation with anomalous dispersion, when the wave frequency increases with wavenumber in the limit of very short waves. The essential difference is that now there exists a steady solitary wave solution (Ostrovsky

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