



Solitary interfacial wave transformation under the inclined bottom

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The quasi-adiabatic transformation of the internal solitary wave propagated under inclined bottom is studied analytically on the base of the Gardner equation and in the frames of the full nonlinear model (Euler equations). Two-layer stratification is considered. It is shown that the solitary wave amplitude grows during propagation and stabilized before the turning point and the amplification is biggest for initial small amplitudes (Korteweg – de Vries solitary waves). The amplification of initial table-top soliton is less than 1.5. It is shown that the tail generated after soliton before turning point is negative for all initial amplitudes. Theoretical estimations are compared with obtained by numerical simulations and range of applicability of the adiabatic theory is estimated. The wave shape at the turning point and the secondary solitary wave generation are studied.