

Stability of solitary waves in biomembranes and nerves

N. Kolkovska, M. Dimova, N. Kutev
Institute of Mathematics and Informatics,
Bulgarian Academy of Sciences, Sofia, Bulgaria
natali@math.bas.bg, mkoleva@math.bas.bg, kutev@math.bas.bg,

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The orbital stability or instability of solitary waves to the double dispersion equation, modeling the pulses propagation in biomembranes and nerves, is investigated.

An analytical formula, determining the regions of stability or instability of solitary waves, is derived. Solitary waves with high velocity are treated. The dependence of the regions of stability on the velocity and the parameters of the model is studied.