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Periodic and solitary traveling-wave solutions for Korteweg-de Vries type equations: sufficient conditions for orbital stability and applications

FÁBIO NATALI

UEM

17/04/2018

16:00 horas

Sala 321 do IMECC

Resumo: In this talk, we establish a criterion for the orbital stability of periodic and solitary waves related to a general class of Korteweg-de Vries type equation. We present sufficient conditions for the stability removing the crucial assumption that the kernel of the the associated linearized operator must be simple. As applications, we prove the stability of periodic waves that miminize a Lyapunov functional, the stability of solitary waves related to a fifth-order model and the stability of periodic/solitary waves for a general dispersive equation with power nonlinearity.