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Abstracts of Short Communications and Posters

Section:

10. Partial Differential Equations

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Invariant tori of evolution equations

In this work, existence, uniqueness and smoothness of the invariant tori are considered for a class of evolution equations

$$\frac{d\varphi}{dt} = a(\varphi), \quad \frac{dx}{dt} = Ax(\varphi) + g(\varphi, x)\big(g(0, x) = 0\big)$$

with smooth function $a : T^m \to I\!R^n$, closed linear operator $A : D(A) \subset X \to X$ and $g \in C^k(T^m, X)$ for some $k \geq 1$, where $T^m - m$–dimensional tori, $I\!R^n - n$–dimensional space, $X-$ Banach space.

Applications to some types of partial differential equations are presented. The results have been partly obtained in joint work with A. M. Samoilenko.