On the blow up phenomena in differential equations and dynamical systems

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The comparison is given of the phenomena of the Ω-blow up in dynamical systems and the phenomena of the blow up in the evolution differential equations. The comparison is based on the methods of multivalued analysis.
The examples are considered. In particular, the new example of C^0- Ω-blow up in C^1-smooth simplest skew products in the plane is described (see [1]).
The procedure is defined of the extension of the dynamical transformation of the space of the initial conditions of Cauchy problem is the case of the destruction of a solution or in the case of the appearance of the singularities in a finite time (see [2]).

О явлениях взрыва в дифференциальных уравнениях и динамических системах

С использованием методов многозначного анализа приведено сравнение явления Ω-взрыва в динамических системах и явления взрыва (или режима с обострением) в эволюционных дифференциальных уравнениях.
Рассмотрены примеры.

References

[1] E.V. Blinova, L.S. Efremova, *On Ω-blow ups in simplest C^1-smooth skew products of maps of an interval*, J. Math. Sci. **157** (2009), 456–465.

[2] V.Zh. Sakbaev, *On the averaging of quantum dynamical semigroups*, TMPh. **164** (2010), 455–463.