ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

10. Partial Differential Equations

1991 MS Classification: 35
Goritsky, Andrey Yu., Moscow State University, Russia.
Integral manifolds with exponential tracking.
Equation $du/dt + Au = F(u,t)$ in a Hilbert space is studied. Here A is a linear operator semibounded below and $F(u,t)$ satisfies the global Lipschitz condition with respect to u. If the spectral gap property holds there exist integral manifolds $M_{\pm}$ that exponentially attract any solution $u(t)$ when $t \to \pm\infty$. The manifold M_{+} is invariant and finite dimensional, M_{-} has a finite codimension. Studying the behavior of solutions $u(t)$ when $t \to +\infty$ we suggest an *explicit construction* of finite dimensional semiinvariant integral manifold with exponential tracking. Results are obtained jointly with V. V. Chepyzhov.
Reference: V. V. Chepyzhov, and A. Yu. Goritsky, Global integral manifolds with exponential tracking for nonautonomous equations, *Russ. Jour. Math. Phys.* **5**(1), 1997, 9-28