

Vishik, M. I.

Attractors for differential equations with rapidly oscillating coefficients. (English)

[Zbl 0995.35010](#)

Carrive, M. (ed.) et al., Actes des journées “Jeunes numériciens” en l’honneur du 60ème anniversaire du Professeur Roger Temam, Poitiers, France, Mars 9-10, 2000. Poitou-Charentes: Atlantique. 119-130 (2001).

The paper contains a brief exposition of recent progress in the theory of trajectory attractors for equations of mathematical physics with applications to the problem of quantitative and qualitative averaging of attractors for equations with rapidly oscillating coefficients. The obtained results are demonstrated on examples of 2D and 3D Navier-Stokes equations with rapidly oscillating external forces, reaction-diffusion equations, damped wave equations etc.

The detailed exposition of these and related topics can be found in the monography of the author [*V. V. Chepyzhov* and *M. I. Vishik*, *Attractors for equations of mathematical physics*. Colloquium Publications, American Mathematical Society, 49, Providence, RI: American Mathematical Society (2002; [Zbl 0986.35001](#))].

For the entire collection see [[Zbl 0978.00050](#)].

Reviewer: [Serguei Zelik \(Chasseneuil Futuroscope\)](#)

MSC:

[35B41](#) Attractors

[35B27](#) Homogenization in context of PDEs; PDEs in media with periodic structure

[37L05](#) General theory of infinite-dimensional dissipative dynamical systems, nonlinear semigroups, evolution equations

Keywords:

[averaging of attractors](#); [global averaging](#); [homogenization of attractors](#)