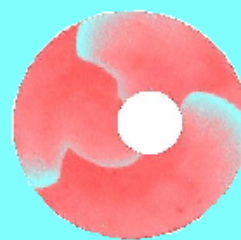


REACTOR Newsletter

n° 4

January 2004



REACTOR is an ESF-funded scientific programme for the promotion and interchange of research results in the areas of non-linear chemistry and non-linear science. The main emphasis is on the development of fundamental understanding at the molecular level of the processes leading to the formation of spatiotemporal structure and patterns in chemical and biochemical systems.

Information and News

Meetings

Grants and Positions

Publications

Information and News

Meetings

The next REACTOR Meeting is scheduled for 2-5 September 2004 in Prague.
Steering Committee meeting: 5 and 6 September 2004 in Prague.

Grants and Positions

Publications

R. A. Satnoianu, COEXISTENCE OF STATIONARY AND TRAVELLING WAVES IN REACTION-DIFFUSION-ADVECTION SYSTEMS, *Physical Review E* 68, 032101 (2003).

"The flow- and diffusion-distributed structures FDS and the differential-flow instability DIFI are mechanisms that give rise to static and travelling waves in reactive flows with general, species-dependent transport terms. Here we consider a general framework which supports the simultaneous existence of FDS and DIFI patterns. We study the necessary conditions for each instability in general and compare them in order to derive, as a new result, their connection. The interaction between FDS

and DIFI patterns gives rise to novel wave behaviour including stationary, upstream and downstream travelling waves as well as an interesting regime where stationary and travelling waves coexist."

REACTOR Web sites:

http://newton.phy.bme.hu/deps/chem_ph/Etc/Reactor/esf_reactor.htm

<http://www.esf.org/reactor/>

<http://www.esf.org>

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Previous Newsletters are posted in the REACTOR web site.
