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Poster title:

**Chemical waves in inhomogeneous media with circular symmetry – Numerical studies**

Abstract:

Waves in excitable media (such as chemical waves) can be treated by a simple geometric theory, the so-called geometrical wave theory. The propagation velocity is assumed known and evolution of wave fronts is determined by elementary physical principles (Fermat's principle, Huygens' principle). Based on this geometric theory a fast computational method is developed. By this method the distorting effect of the spatial grid is avoided. The method is first applied to rotating wave fronts around a circular hole in a membrane with circular symmetry in the propagation velocity, and is compared with the known theoretical results. Then it is applied to a medium whose propagation velocity is obtained from experiments, therefore it has irregularities. The resulted fronts are compared with experimental ones.