

M. J. B. Hauser, R. H. Simoyi:
Inhomogeneous precipitation patterns in a chemical wave
Physics Letters A **1994**, 191, 31 - 38

Abstract:

Inhomogeneous BaSO_4 precipitation patterns are observed in the travelling wave generated in the bistable chlorite - thiourea - barium chloride reaction system. At the wave-front SO_4^{2-} is formed and detected as BaSO_4 which precipitates inhomogeneously in the region behind the front. These inhomogeneous patterns can be attributed to the formation of dense crystals in the upper solution layer which induce complex three-dimensional convective, and reaction-diffusive motions. The wave propagates with rapid variations in velocity. The inhomogeneous precipitation patterns are annihilated upon a sharp deceleration of the wave.