

Thomas Mair:

Structural and dynamical changes of metabolic patterns in a yeast extract as a function of protein concentration

Satenik Bagyan and Thomas Mair

Otto-von-Guericke-Universitaet Magdeburg, Institute of Experimental Physics, Group of Biophysics, Magdeburg, Germany

Abstract:

We investigated spatiotemporal pattern formation of the energy metabolism in a yeast extract. Different types of patterns could be observed when the protein concentration was varied between 23mg/ml to 91mg/ml. At low protein concentrations we observed mainly large inward propagating target patterns, whereas at intermediate protein concentrations outward propagating waves broke up into small pieces of double armed spirals which were quite unstable. At high protein concentrations we found first standing patterns (pulsating dots) which later emerged into propagating waves. The wave velocity as well as the wave diameter also changed as a function of protein concentration.