



Análisis De La Inestabilidad De Turing En Modelos Biológicos [

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text (article)

Analítica

The mathematical analysis of biological models described by reaction-diffusion equations gives place to the idea of Turing Instabilities. In this work we study this idea and the mathematical space upon which is supported, known as Turing Space. The aim is to establish the relationship between the set of parameters that define the presence of spatial-temporal patterns in the solution of a reaction-diffusion system. These parameters are validated in 1D and 2D by the implementation through the finite element method of two well-known biological models: the Schnakenberg model and the glycolysis model. The results show that the parameters obtained by the mathematical analysis lead to the formation of spatial-temporal patterns. We concluded that the mathematical analysis of stability is a useful tool for the selection of unknown parameters in a model that otherwise might require of adjustment through numerical experimentation

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