



Análisis De La Inestabilidad De Turing En Modelos Biológicos [

2009

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

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

<https://rebiunoda.pro.baratznet.cloud:28443/OpacDiscovery/public/catalog/detail/b2FpOmNlbgVlcmF0aW9uOmVzLmJhcmF0ei5yZW4vMzExOTY3MTA>

Título: Análisis De La Inestabilidad De Turing En Modelos Biológicos electronic resource]

Editorial: 2009

Tipo Audiovisual: Inestabilidad de Turing reacción-difusión formación de patrones biología matemática Turing instability reaction-diffusion pattern formation mathematical biology

Documento fuente: DYNA vol 76 n° 157 (2009): revista de la Facultad de Minas. Universidad Nacional de Colombia. Sede Medellín, ISSN 0012-7353, Vol. 76, N°. 158, 2009, pags. 123-134

Nota general: application/pdf

Restricciones de acceso: Open access content. Open access content star

Condiciones de uso y reproducción: LICENCIA DE USO: Los documentos a texto completo incluidos en Dialnet son de acceso libre y propiedad de sus autores y/o editores. Por tanto, cualquier acto de reproducción, distribución, comunicación pública y/o transformación total o parcial requiere el consentimiento expreso y escrito de aquéllos. Cualquier enlace al texto completo de estos documentos deberá hacerse a través de la URL oficial de éstos en Dialnet. Más información: <https://dialnet.unirioja.es/info/derechosOAI> | INTELLECTUAL PROPERTY RIGHTS STATEMENT: Full text documents hosted by Dialnet are protected by copyright and/or related rights. This digital object is accessible without charge, but its use is subject to the licensing conditions set by its authors or editors. Unless expressly stated otherwise in the licensing conditions, you are free to linking, browsing, printing and making a copy for your own personal purposes. All other acts of reproduction and communication to the public are subject to the licensing conditions expressed by editors and authors and require consent from them. Any link to this document should be made using its official URL in Dialnet. More info: <https://dialnet.unirioja.es/info/derechosOAI>

Lengua: Spanish

Enlace a fuente de información: DYNA vol 76 n° 157 (2009): revista de la Facultad de Minas. Universidad Nacional de Colombia. Sede Medellín, ISSN 0012-7353, Vol. 76, N°. 158, 2009, pags. 123-134

Baratz Innovación Documental

- Gran Vía, 59 28013 Madrid
- (+34) 91 456 03 60
- informa@baratz.es