國立中央大學數學系

學術演講

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講題: **Planar Neural Field Firing with Axonal Delay**

時間: 2008年07月14 日(星期一) 上午10:00 ~11:00

茶會: 2008年07月14日09:30~10:00於鴻經館 M306

地點: 中央大學鴻經館**M107**室

Abstract:

In many regions of mammalian neocortex, synaptic connectivity patterns follow a laminar arrangement. Hence, it is highly desirable to obtain solutions to fully planar neural field models. Also, recently there has been a growing interest in neural field models where the communication between different parts of the domain is delayed due to the finite conduction speed of action potentials.

Based on these motivations, we study the physiologically important case of a model in two spatial dimensions with axonal delays and to obtain an equivalent PDE model This PDE has been shown to provide a "long-wavelength" approximation (to the underlying integral model) which have been used in several EEG modeling studies. This PDE model also show instabilities of the homogeneous steady state that fully agrees with a Turing instability analysis of the original integral model.