

日本物理学会北海道支部会講演会 主催

第175回エンレイソウの会 共催

場 所： 理学部2号館211号室

日 時： 2012年9月3日 13:00-14:00

講演者： Prof. H. R. Brand

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題 目： 『Dissipative solitons with energy and matter flows:
fundamental building blocks for the world of living organisms』

要 旨： We consider a combined model of dissipative solitons that are generated due to the balance between gain and loss of energy as well as to the balance between input and output of matter. The system is governed by the generic complex Ginzburg-Landau equation, which is coupled to a common reaction-diffusion (RD) system. Such a composite dynamical system may describe nerve pulses with a significant part of electromagnetic energy involved or light controlled chemical reactions. We present examples of such composite dissipative solitons and analyze their internal balances between energy and matter generation and dissipation. Our model serves as the simplest example of the intricate transition from the inanimate world to the world of living organisms where the energy and matter supplies are readily available.

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