

THE UNIVERSITY



OF HONG KONG

DEPARTMENT OF MECHANICAL ENGINEERING

SEMINAR

Title: SOLITON MANAGEMENT IN PERIODIC SYSTEMS

Speaker: Prof. Boris A. Malomed
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IEEE HK
Section
LEOS

Date: 22 April 2008 (Tuesday)

Time: 4:00 p.m.

Venue: Room 7-31D, Haking Wong Building, HKU

The past ten years have seen intensive development in the theoretical and experimental studies of the dynamics of solitons in periodic heterogeneous media, which are built as periodic (or sometimes random) concatenations of very different elements. Well-known examples are dispersion management in fiber optics, and, more recently, soliton transmission in photonic crystals. The talk aims to give an overview of basic results in the field, with an objective to formulate the concept for a general class of such systems. New systems belonging to the class have recently been identified in nonlinear optics, such as "split-step" and "tandem" models, the one with periodic management of the mismatch in second-harmonic-generating settings, and some others. The transmission of solitary pulses in these media was investigated too. The similarity of these optical settings to the soliton dynamics in Bose-Einstein condensates (under the action of the "Feshbach-resonance management") will also be briefly discussed. The talk is largely based on a book, "Soliton Management in Periodic Systems", by B. A. Malomed, Springer (New York, 2006).

ALL INTERESTED ARE WELCOME

For further information, please contact Dr. K.W. Chow at 2859 2641.