APCTP SEMINAR

Introduction to Chaotic Dynamics

Prof. M. LAKSHMANAN

Center for Nonlinear Dynamics, Bharathidasan University

October 14th (Thu.) 14:30 (KST)
Online via ZOOM

In this talk, I plan to give a brief overview of the concept of nonlinearity, bifurcations and chaos with reference to Duffing oscillator and then consider briefly the dynamics of other nonlinear oscillators, such as damped, forced Mathews-Lakshmanan oscillator, Lienard type oscillator, Murali-Lakshmanan-Chua circuit and spin torque nano-oscillator. Then the concepts of synchronization and collective dynamical states including chimeras will be briefly touched upon.

■ **ZOOM Webinar**

1) Please register through this ZOOM link
https://us06web.zoom.us/meeting/register/tZMsdeyvrDosEtYddvp6qYdvuRpBZBl_9UwY
2) Join the webinar with a link generated after the registration
3) Please rename your profile - E.g. **Full name (affiliation)**

■ **Contact information**

1) Host: Karuppaiaya Sakkaravarthi(karuppaiya.sakkaravarthi@apctp.org)
2) Office: Research Support Team (ra@apctp.org)

apctp

The APCTP is supported by the Korean Government through the Science and Technology Promotion Fund and Lottery Fund and strives to maximize social value through its various activities.
아시아태평양이론물리센터는 정부의 과학기술진흥기금 및 복권기금 지원으로 사회적 가치 제고에 힘쓰고 있습니다

APCTP SEMINAR

Integrability and Solitons

Prof. M. LAKSHMANAN

Center for Nonlinear Dynamics, Bharathidasan University

October 15th (Fri.) 14:30 (KST)
Online via ZOOM

In this second talk, I will briefly discuss the notion of integrability with respect to specific nonlinear oscillators, including force free Duffing oscillator, Mathews-Lakshmanan oscillator, Lienard type oscillator and other finite dimensional oscillators and introduce the notion of Lax pair. Then I will point out how the celebrated Korteweg-de Vries equation follows as an appropriate model equation to describe the Fermi-Pasta-Ulam phenomena of the anharmonic lattice and introduce its Lax pair and briefly consider the inverse scattering transform analysis to obtain soliton solutions. Other integrable soliton equations will be briefly discussed.

■ **ZOOM Webinar**

1) Please register through this ZOOM link
https://us06web.zoom.us/meeting/register/tZMsdeyvrDosEtYddvp6qYdvuRpBZBl_9UwY
2) Join the webinar with a link generated after the registration
3) Please rename your profile - E.g. **Full name (affiliation)**

■ **Contact information**

1) Host: Karuppaiaya Sakkaravarthi(karuppaiya.sakkaravarthi@apctp.org)
2) Office: Research Support Team (ra@apctp.org)

The APCTP is supported by the Korean Government through the Science and Technology Promotion Fund and Lottery Fund and strives to maximize social value through its various activities.
아시아태평양이론물리센터는 정부의 과학기술진흥기금 및 복권기금 지원으로 사회적 가치 제고에 힘쓰고 있습니다