APCTP SEMINAR

Linearizing Lie and Riccati transformations for a class of Lienard type equations and exact solutions

Prof. A.G. Johnpillai

Eastern University

November 16th (Tue.) 14:00 (KST)

Online via ZOOM

In this presentation, we show how one can construct a linearizing Riccati transformation using an anstz and a linearizing point transformation invoking the Lie-Tress linearization theorem for a three-parameter class of Linard type nonlinear dissipative second-order ordinary differential equations. The general solution of this class of equations can then easily be obtained by integrating the linearized equations resulting from both of the linearization approaches.

Moreover, we utilize the linearizing Riccati transformation to extend the un-derlying class of equations and the Lie-Tress linearization theorem is also used to verify the conditions of linearizability of this new class of equations.

■ **ZOOM Webinar**

1) Please register through this ZOOM link
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APCTP SEMINAR

Nonlinear Waves in Bose-Einstein Condensates

Prof. T. Kanna

Bishop Heber College

November 16th (Tue.) 15:00 (KST)

Online via ZOOM

Bose-Einstein condensates provide fertile ground for the realization of interesting nonlinear waves like solitons and rogue waves. This talk will be focused on the dynamics of such waves in multi-component condensates described by the coupled Gross-Pitaevskii (CGP) type equations. In particular, the role of Rabi-coupling with temporally and spatially modulated nonlinearities will be addressed. Then, the influence of phase-dependent coupling in the formation of nonlinear coherent structures in multi-component atomic condensates in autonomous and non-autonomous settings will be explored.

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