



**The Hong Kong Polytechnic University
Department of Applied Mathematics**

Colloquium

**Exact Solutions and Bifurcations of a Modulated Equation in
a Discrete Nonlinear Electrical Transmission Line**

by

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We consider a model which is a modulated equation in a discrete nonlinear electrical transmission line. This model just is an integrable planar dynamical system having three singular straight lines. By using the theory of singular systems and investigating the dynamical behavior, we obtain bifurcations of phase portraits of systems under different parameter conditions. Corresponding to some special level curves, we derive possible exact explicit parametric representations of solutions (including smooth solitary wave solutions, peakons, compactons, periodic cusp wave solutions) under different parameter conditions.

Date : 12 January, 2015 (Monday)

Time : 3:00p.m. – 4:00p.m.

Venue : HJ610, The Hong Kong Polytechnic University

*** * * ALL ARE WELCOME * * ***