



The Hong Kong University of Science and Technology

Department of Mathematics

Seminar on Applied Mathematics

**A contour-integral based method for
counting the eigenvalues inside a region in
the complex plane**

By

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Abstract

In many applications, the information about the number of eigenvalues inside a given region is required. In this talk, I will introduce a contour-integral based method for this purpose. The new method is motivated by two findings. There exist methods for estimating the number of eigenvalues inside a region in the complex plane. But our method is able to compute the number of eigenvalues inside the given region exactly. An appealing feature of our method is that it can integrate with the recently developed contour-integral based eigensolvers to help them detect whether all desired eigenvalues are found. Numerical experiments are reported to show the viability of our new method.

Date : ***Wednesday, 19 April 2017***

Time: ***3:00 p.m. – 4:00 p.m***

Venue: ***Room 2463, Academic Building***
(near Lifts 25&26), HKUST

All are welcome!