Analysis/dynamical systems Seminar

Monday, November 17, 2014

4:30-5:20 pm in Hume 331

On deformations of classical Jacobi and random matrices

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Let A be either an infinite tridiagonal matrix, or a large random matrix, with known spectral properties. We will try to reveal the spectrum of the product HA, where $H = diag(-1, ..., -1, 1, 1, ...)$. We will start with a short motivation, lying in the fields of signal analysis (extracting information from a highly noisy signal) and numerical analysis. Subsequently, we will discuss the main method, based on the knowledge of the resolvent $(A - z)^{-1}$. We will compare similarities and differences between the two cases and show the main results on location of spectra.

The talk is based on a joint work with Maxim Derevyagin and Patryk Pagacz (Jagiellonian University).