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Reza Rashidi Far* (reza@mast.queensu.ca), Department of Mathematics and Statistics, Queen's University, Kingston, Ontario K7L 3N6, Canada. *Spectra of large symmetric block matrices.*

In my talk, I will address a method to calculate the asymptotic eigenvalue distribution of the symmetric block matrices. First, I show how using the operator-valued free probability theory one can get a system of equations in the Stieltjes domain. Having the answer to the system of equations, one can calculate the spectra of interest. But some popular numerical methods such as Newton's method may fail for some initializations. In the second part of the talk, I will address an iterative method based on the formulation of the problem which assures the convergence.

The first part of my talk is a joint work with W. Bryc, T. Oraby and R. Speicher and the second part was done in collaboration with W. Helton and R. Speicher. (Received January 23, 2007)