

Michigan Math Club

Thursday at 4pm in **East Hall 2851**
(Nesbitt Room) Free Pizza and Pop

Eigenvalues of Random Symmetric Matrices

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Abstract for 15 Mar. 2012

Consider a 2 by 2 symmetric matrix. Then its two eigenvalues are real numbers. If we take the entries of the matrix to be random (for example 1 or -1 with probability 1/2), then the eigenvalues are two random points on the real line. Now consider a random N by N symmetric matrix. A question is: Where are the expected locations of the N eigenvalues when N is large? Do they stay in a finite interval? Do they spread out? We will explain the interest of this problem, and its connections to enumeration problems.

