

The limit shape of random $SU(3)$ representations

Dan Romik, University of California, Davis

I will present a model for random representations of the matrix group $SU(3)$, and derive formulas for their limit shapes. The derivation leads to natural number-theoretic questions about the so-called Witten zeta function of $SU(3)$, which turns out to have extremely interesting properties that are worth studying independently. I will also discuss the possible extension of these results to the study of random representations of any simple Lie algebra or compact connected simple Lie group.