ALLYSA LUMLEY, York University

Distribution of Values of L-functions associated to Hyperelliptic Curves over Function Fields

In 1992, Hoffstein and Rosen proved a function field analogue to Gauß' conjecture regarding the class number, h_D, of a discriminant D by averaging over all polynomials with a fixed degree. In this case $h_D = |\mathrm{Pic}(\mathcal{O}_D)|$, where $\mathrm{Pic}(\mathcal{O}_D)$ is the Picard group of $\mathcal{O}_D$. Andrade later considered the average value of h_D, where D is monic, squarefree and its degree varies. He achieved these results by calculating the first moment of $L(1, \chi_D)$ in combination with Artin's formula relating $L(1, \chi_D)$ and h_D. For this talk we discuss the complex moments of $L(1, \chi_D)$. We show that these moments are very nearly equal to those of a random probabilistic model. We also describe the distribution of values for both $L(1, \chi_D)$ and h_D.