Zeros of Fekete polynomials

Marc Munsch

TU Graz

munsch@math.tugraz.at

The study of the location of zeros of polynomials with coefficients con-
strained in different sets has a very rich history. The case of random polyno-
mials has been studied intensively and the asymptotic number of real zeros
has been computed in various cases (Gaussian, Bernoulli etc). We investigate
related questions in the deterministic family of Fekete polynomials. These
are constructed with coefficients being Legendre symbols and are related to
the study of zeros of real Dirichlet $L$-functions. We discuss previous results,
conjectures and the progress we made towards the understanding of real zeros
in this family of polynomials.

This is a joint work with O. Klurman and Y. Lamzouri.