

Ahmad Barhoumi (University of Michigan, USA)

Asymptotics of Kissing Polynomials and their Recurrence Relations

Abstract: Kissing polynomials, dubbed so for the peculiar behaviour of their zeros, are a family of polynomials orthogonal with respect to an oscillatory, complex-valued weight. These polynomials were first considered in the development of a Gaussian quadrature rule to address highly oscillatory integrals. Since the weight of orthogonality is complex-valued, the quadrature nodes are not necessarily restricted to the real line, nor are we guaranteed n nodes. In this talk, I will introduce these kissing polynomials and discuss several results about the asymptotic behaviour of the polynomials and their recurrence coefficients.