

# COMPLEX APPROXIMATION ON RATIONAL CURVES

**Mihai Putinar**

University of California, United States

mputinar@math.ucsb.edu

A foundational theorem of J. Thomson states that the density of complex polynomials on Lebesgue space  $L^2$  associated to a compactly supported measure on the complex plane is decided by the existence of analytic bounded point evaluations. We owe to Brennan a final result of this type for complex rational approximation. By means of standard base change techniques, we show that the same characterization of complex polynomial approximation holds true on complex, affine rational curves. Beyond compact supports, for measures supported by a real, affine algebraic curve which admits a polynomial parametrization we relate the existence of analytic bounded point evaluations on the complexification of the original curve to moment indeterminateness.

*Joint work with Shibnanda Biswas (Indian Institute of Science Education and Research, Kolkata, India) and David Kimsey (Newcastle University, Newcastle upon Tyne, UK).*