

1125-33-788

Barry Simon* (bsimon@caltech.edu), Mathematics 253-37, Caltech, Pasadena, CA 91125.

Chebyshev Polynomials on the Real Line.

This describes joint work with Jacob Christiansen and Maxim Zinchenko on Chebyshev polynomials, T_n , on a compact subset, $\mathfrak{e} \subset \mathbb{R}$. For any Parreau–Widom set, \mathfrak{e} , we prove an upper bound of the form $\|T_n\|_{\mathfrak{e}} \leq QC(\mathfrak{e})^n$ generalizing a bound of Totik and Widom for finite gaps sets. We obtain Szegő–Widom asymptotics for the polynomials of the set \mathfrak{e} thereby establishing a 45 year old conjecture of Widom. (Received September 11, 2016)