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, $\epsilon \subset \mathbb{R}$. For any Parreau–Widom set, $\epsilon$, we prove an upper bound of the form $\|T_n\|_\epsilon \leq QC(\epsilon)^n$ generalizing a bound of Totik and Widom for finite gaps sets. We obtain Szegő–Widom asymptotics for the polynomials of the set $\epsilon$ thereby establishing a 45 year old conjecture of Widom. (Received September 11, 2016)