Expected sum of monomials

Expected filter value $\mathbf{E}_\theta[g_\theta(x)]$

- degree $K = 5$
- degree $K = 20$
- degree $K = 100$

$$g_\theta(x) = \sum_{k=0}^{K} \theta_k x^k$$
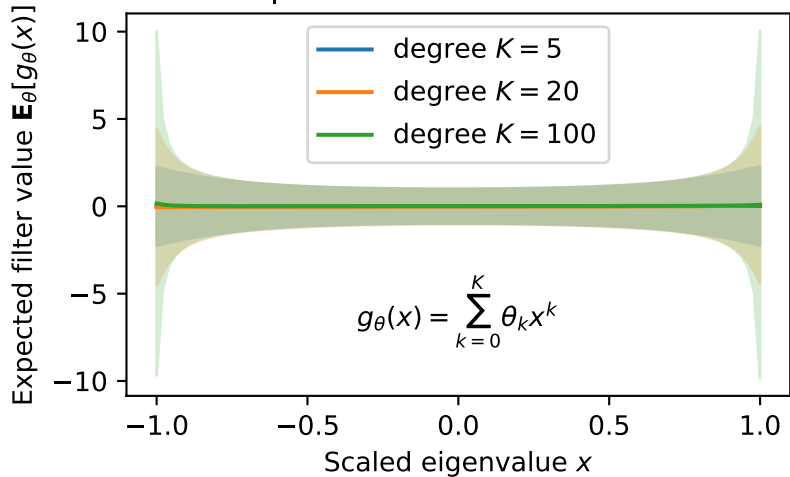
Expected sum of Chebyshev polynomials

- degree $K = 5$
- degree $K = 20$
- degree $K = 100$

$$g_\theta(x) = \sum_{k=0}^{K} T_k(x)$$

$T_k(x) = 2xT_{k-1}(x) - T_{k-2}(x), T_1(x) = x, T_0(x) = 1$

Scaled eigenvalue x