

1176-42-69

Kasso Okoudjou*, Department of Mathematics, Tufts University, 503 Boston Avenue, Medford, MA 02155. *Orthogonal polynomials on the Sierpiński gasket (SG)*.

In this talk I will introduce a theory of orthogonal polynomials on SG , focusing on the fractal analogs of the Legendre and Sobolev orthogonal polynomials. These orthogonal polynomials arise through the Gram-Schmidt orthogonalization process applied on the set of monomials on SG using various inner products. After establishing some recurrence relations for these orthogonal polynomials, we give estimates for their L^2 , L^∞ , and Sobolev norms, and report on the analysis of the corresponding Jacobi matrices.

This talk is based on joint work with Q. Jiang, T. Lan, E. Tuley, R. Strichartz, S. Sule, S. Venkat, and X. Wang (Received January 13, 2022)