

1171-35-131

**Mary Vaughan\***, maryv@utexas.edu, and **Pablo Raúl Stinga**. *Harnack inequality for fractional elliptic equations in nondivergence form.*

In this talk, we will define fractional powers of nondivergence form elliptic operators in bounded domains under minimal regularity assumptions. The main result we will present is a Harnack inequality for solutions to a corresponding fractional Poisson problem. In order to overcome the nonlocality, we will characterize the fractional Poisson problem with a degenerate/singular extension problem. We develop the method of sliding paraboloids in the intrinsic Monge–Ampère geometry to prove Harnack inequality for solutions to the extension problem. (Received August 09, 2021)