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**Mary Vaughan\*** (maryo@iastate.edu) and **Pablo Raúl Stinga** (stinga@iastate.edu).

*Fractional derivatives and Laplacians in one and two-sided weighted Sobolev spaces.*

The most general way to define Fractional derivatives and Laplacians is in the distributional sense. We will show that the pointwise formulas for these operators hold for functions in more general classes. The classes we consider are weighted Sobolev spaces with two-sided Muckenhoupt weights and one-sided Sawyer weights. The latter capture the one-sided nature of fractional derivatives. The pointwise and norm limits as the orders of the derivatives converge to an integer are also analyzed. (Received September 11, 2019)