

Meeting: 1001, Evanston, Illinois, SS 16A, Special Session on Spectral Problems of Differential Operators

1001-34-302 **L. L. Littlejohn*** (lance@math.usu.edu), Department of Mathematics and Statistics, Utah State University, Logan, UT 84322-3900. *Abstract Left-Definite Theory for Positive Self-Adjoint Operators.*

We assume that A is a self-adjoint operator that is bounded below by a positive constant in a Hilbert space H . For this operator we define, for any $r > 0$, what is meant by an r^{th} left-definite space H_r and an r^{th} left-definite operator A_r and show that such left-definite spaces and operators exist for all $r > 0$. We illustrate this general abstract theory by considering multiple examples. (Received August 30, 2004)