

**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)