

Meeting: 1003, Atlanta, Georgia, SS 27A, AMS-SIAM Special Session on Analysis and Applications in Nonlinear Partial Differential Equations, I

1003-35-98 **Shijun Zheng*** (szheng@math.lsu.edu), Department of Mathematics, Baton Rouge, LA 70803.
Littlewood-Paley theory, Atomic decomposition and Schrödinger operators.

Consider the Schrödinger operator $H = -\Delta + V$ on \mathbb{R}^n , where the potential $V(x)$ satisfies certain short range condition. By developing a Littlewood-Paley theory for H , we study the associated Besov spaces. In particular we prove a sharp Hörmander type spectral multiplier theorem on these spaces, including the L^p boundedness result. A short review on recent development in related area is also given. (Received September 23, 2004)