

**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](mailto: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)