Athanasios Georgiadis
Aalborg University, Denmark

Homogeneous Triebel-Lizorkin spaces associated with operators

Homogeneous Triebel-Lizorkin spaces with complete set of indices are introduced in the general setting of a doubling metric measure space in the presence of a non-negative self-adjoint operator whose heat kernel has Gaussian localization and the Markov property. The main step in this theory is the development of distributions modulo generalized polynomials. Some basic properties of the general homogeneous Triebel-Lizorkin spaces are established, in particular, a discrete (frame) decomposition of these spaces is obtained.