

Characterization of ultradifferentiable functions via a class of FBI transforms

Renan Dantas Medrado

Abstract

We present a class of FBI transforms using weight functions (which includes the class of FBI transforms presented by M. Christ in 1997) and characterize Braun, Meise and Taylor (BMT) locally regularity of ultradistributions via this class. Also, we characterize the BMT vectors (defined by a hypoelliptic operator of constant coefficient) in terms of the class of FBI transform. As an application we prove that for elliptic constant coefficient operators the class of BMT functions is equal the class of BMT vectors.