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Boas-type theorem within a linear canonical integral transform framework.

Communication Info

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Abstract

Assume that $\nu > -\frac{1}{2}$. We examine the linear canonical Fourier-Bessel transform of order ν , represented as $\mathcal{F}_\nu^M(f)$, pertaining to the measure $d\mu_\nu(x) = x^{2\nu+1}dx$. For a function f that is integrable on \mathbb{R}_+ with respect to $d\mu_\nu(x)$, we present necessary and sufficient conditions for f and its linear canonical Fourier-Bessel transform of order ν to be classified within the generalized Lipschitz classes $H_\nu^{\omega,m}$ and $h_\nu^{\omega,m}$, based on a slight modification of the classical definition of finite differences. This study builds upon the prior research undertaken by S. Volosivets in [1].

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