

Wavelet Transform of Dini Lipschitz Functions on the Quaternion Algebra

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In this present work, we generalize Titchmarsh's theorem for the complex- or hypercomplex-valued functions. Firstly, we examine the order of magnitude of the windowed linear canonical transform (WLCT) of complex-valued functions that achieved certain Lipschitz conditions on \mathbb{R} . Secondly, we studied the order of magnitude of the 2-D continuous quaternion wavelet transform (CQWT) of certain quaternionic valued Lipschitz functions.