



Growth of the Laguerre Transform in Terms of Modulus of Continuity

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Abstract

This study establishes a general inequality controlling the growth behavior of the Laguerre transform for both large and small arguments, by using a suitable class of \mathcal{L}_α^p -multipliers. As a consequence, a Titchmarsh theorem-type result for the Laguerre transform is obtained in the one-dimensional setting.

Keywords: Laguerre transform, modulus of smoothness, Riemann-Lebesgue lemma, Hausdorff-Young inequality, Titchmarsh's theorem.