

ON THE CONVOLUTION THEOREM FOR THE FOURIER TRANSFORM OF BV_0 FUNCTIONS

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Abstract. In this paper we prove the Convolution Theorem for the Fourier Integral transform over a subset of bounded variation functions which vanish at infinity. This subset is dense in $L^2(\mathbb{R})$. Moreover, it does not have inclusion relations with the space of Lebesgue integrable functions. We employ the Henstock-Kurzweil integral.

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