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*The Convolution Theorem over a subset of bounded variation functions*

In this talk we prove the Convolution Theorem for the Fourier integral transform over a subset of bounded variation functions which is dense in  $L^2(\mathbb{R})$ . Moreover, we study some features of those bounded linear transformations  $T$  defined on that intersection with values in the space of bounded continuous functions on  $\mathbb{R}$ , for which the convolution identity  $T(f*g) = Tf \cdot Tg$  holds.