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Integral transform and convolution of analytic funtionals on abstract Wiener space

Yeh defined a convolution of functionals on Wiener space and investigated the relationship between the Fourier-Wiener transforms of each functional and the Fourier-Wiener transform of their convolution. Recently Yoo extended Yeh's results to abstract Wiener space. Lee introduced an integral transform on abstract Wiener space which is an extension of the Fourier-Wiener transform.

In this paper, we examine the convolution in integral transform on abstract Wiener space. We establish the relationship between the integral transforms of exponential type analytic functionals and the integral transform of their convolution. Also we obtain Parseval's and Plancherel's relations for those functionals from this relationship. All results of Yeh and Yoo are corollaries of our results.