**Betancor, J. J.**

**A mixed Parseval's equation and a generalized Hankel transformation of distributions.**

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Can. J. Math. 41, No. 2, 274-284 (1989).

We introduce a new integral transform, that is a generalization of the Hankel transformation, depending on three parameters and denoted by $F_{\alpha_0,\alpha_1,\alpha_2}$. It is extended to a space of distributions. This transforms satisfy the mixed Parseval equation

$$\int_0^\infty F_{\alpha_0,\alpha_1,\alpha_2}\{f\}(x)g(x)dx = \int_0^\infty f(x)F_{\alpha_2,\alpha_1,\alpha_0}\{g\}(x)dx.$$

This equality suggests that the generalized transform $F'_{\alpha_0,\alpha_1,\alpha_2}$ be defined as the adjoint operator of $F_{\alpha_0,\alpha_1,\alpha_2}$. Well- known results due to A. H. Zemanian about the Hankel transformation of distributions can be seen as special cases of the ones obtained here.

Reviewer: J.J.Betancor

**MSC:**

46F12 Integral transforms in distribution spaces
44A15 Special integral transforms (Legendre, Hilbert, etc.)



**Keywords:**

integral transform; generalization of the Hankel transformation, depending on three parameters; space of distributions; mixed Parseval equation

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