

## ANALYTICITY OF DISTRIBUTIONAL FOURIER-MELLIN INTEGRAL TRANSFORM

S. M. KHAIRNAR, R. M. PISE AND J. N. SALUNKE

### Abstract

In this paper Fourier-Mellin integral transform is extended in the distributional generalized sense. Properties like linearity, scaling and power property and propositions for the functions and  $\frac{1}{t}f\left(\frac{1}{t}, x\right)$  and  $(\log x)f(x)$  are discussed. Inversion theorem, Convolution theorem and Orthogonality are also proved. By using Ramanujan's formula we also obtained new result for this integral transform. Analyticity of Fourier-Mellin transform is also given.

-----  
Key Words : *Fourier transform, Mellin transform, Fourier-Mellin transform, Signal processing, Shift form invariant system.*

2010 AMS Subject Classification : 32S40.

© <http://www.ascent-journals.com>