

Integrals of Mellin–Barnes type

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Abstract: Integrals involving ratios of products of gamma functions along vertical lines in the right half plane have been important since their appearance in 1890s featuring prominently in analytic number theory (in the works of Cahen, Pincherle and others) and also formed a point of departure for Barnes for his development of the theory of hypergeometric functions. The Meier G-functions are also representable as integrals of Mellin-Barnes type. These integrals feature in the work of Hecke in connection with certain problems in algebraic number theory. In this talk we shall look at these integrals from the point of view of pull backs of distributions in the sense of Laurant Schwartz via submersive maps deriving many classical well-known identities as corollaries.