

Abstract

We discuss various new properties of a particular case of Meijer's G-function, including integral and functional equations, nonnegativity conditions and number of zeros, convergence of measures with G-function density and regularization of integrals containing G-function. Some of these properties are then applied to derive new representations for generalized hypergeometric functions and establish some new and old facts about them. In particular, for the generalized hypergeometric functions of Bessel type we find some positivity conditions, inequalities and information about zeros of this function.