ON MULTI–INDEX WHITTAKER FUNCTION, RELATED INTEGRALS AND INEQUALITIES

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Abstract. A new generalization of Whittaker function $M_{\lambda, \mu}(z)$ is introduced and studied by means of the extended multi-index confluent hypergeometric function of the first kind $\Phi^{(\gamma)}_{\alpha, \beta}(\alpha, \beta)$ introduced in [1]. The related Euler–type integral representation and the Laplace–Mellin and Hankel integral transforms are also presented. Functional two–sided bounding inequality is established for the multi-index Mittag-Leffler function, and in continuation functional lower bound is derived for the associated ML–extended Whittaker function.


Keywords and phrases: Extended Whittaker function, extended confluent hypergeometric function, extended Beta function, multi–index Mittag–Leffler function, functional inequality bounds.

REFERENCES


