REMARC K TO HISTORY OF FRACTIONAL DERIVATIVES ON COMPLEX PLANE: SONINE–LETNIKOV AND NISHIMOTO DERIVATIVES

VASILY E. TARASOV

Abstract. An important part of fractional calculus is connected with the fractional-order integro-differentiation in the complex plane, which is generalization of the well-known Cauchy differentiation formula. In some publications this generalization is called the Nishimoto fractional derivatives. In our paper, we emphasize the fact that the generalization of the Cauchy’s differentiation formula to non-integer orders has been suggested by Sonine in 1872 more than a hundred years before Nishimoto’s works. The Sonine approach has been adjusted by Letnikov in 1873 and then it has been developed by Nekrasov in 1888.

Keywords and phrases: Fractional derivatives, complex plane, generalization of Cauchy formula, Sonine–Letnikov derivatives, Nishimoto derivative, History of fractional calculus.

REFERENCES


