MULTIPLE OPIAL–TYPE INEQUALITIES FOR
GENERAL KERNELS WITH APPLICATIONS

SAJID IQBAL, JOSIP PEČARIĆ AND MUHAMMAD SAMRAIZ

Abstract. The main purpose of this paper is to give the general multiple Opial-type inequalities for general kernels. We consider the monotocity and boundedness of the weight functions to prove new inequalities. As applications of our general results we establish new inequalities for Widder’s derivatives and linear differential operator. Results from [11] are obtain by applying the Canavati fractional derivatives to our main results.


Keywords and phrases: Opial’s inequality, kernel, fractional derivative, Widder’s derivatives, linear differential operators, Green’s function.

REFERENCES