Some new inequalities with applications

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It is well known that the integral inequalities involving functions of independent variables functions play a fundamental role in the development of the theory of differential equations. Also of importance in fractional differential equations theory is the study of fractional type inequalities. In this talk, we use the Riemann-Liouville fractional integrals, to establish some new inequalities of Qi type. Four our results [1], [2], some classical inequalities can be deduced as some particular cases. We also present some new results of Minkowsky type. In order to illustrate a possible practical use of our results, we give simple examples in which we can apply the inequalities; as an example that arises in application, we consider the Bagley-Torvik fractional differential equation which arises in modeling the motion of a rigid plate immersed in a Newtonian fluid.

References

[1] Z. Dahmani, L. Tabharit, *Certain inequalities involving fractional integrals*, Journal of Advanced Research in Scientific Computing, Volume 2, Issue 1, (2010) pp. 55-60.

[2] Z. Dahmani and S. Belarbi, *Some Inequalities of Qi Type Using Fractional Integration*, IJNS, (2011), in press.