THE HIERARCHY OF CONVEXITY AND SOME CLASSIC INEQUALITIES

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Abstract. In what follows, a hierarchy of $m$-convexity is considered: we define $m$-starshaped functions, $m$-superadditive functions, Jensen $m$-convex functions, weak Jensen $m$-convex functions, Jensen $m$-superadditive functions, and weak $m$-superadditive functions. Some inclusions between such classes of functions are established. We also analyze the validity of the Hermite-Hadamard inequality, and of the Chebyshev-Andersson inequality for $m$-convex functions.


Keywords and phrases: Hermite-Hadamard inequality, Chebyshev-Andersson inequality, hierarchy of $m$-convexity.

REFERENCES