COMPLETE MONOTONICITY PROPERTY FOR TWO FUNCTIONS RELATED TO THE $q$–DIGAMMA FUNCTION

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Abstract. In this paper, the complete monotonicity property for two functions involving the $q$–digamma function are proven for all positive real $q$ and exploited to establish some sharp inequalities for the $q$–gamma, $q$–digamma and $q$–polygamma functions. Comparisons between our results with previous results are provided.


Keywords and phrases: $q$–digamma function, $q$–gamma function, completely monotonic functions, inequalities.

REFERENCES


