On Some Incremental Algorithms for the Minimum Sum-of-Squares Clustering Problem

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Abstract: Solution methods for the minimum sum-of-squares clustering (MSSC) problem are analyzed and developed in this paper. Based on the DCA (Difference-of Convex-functions Algorithms) in DC programming and recently established qualitative properties of the MSSC problem, we suggest an improvement of Ordin-Bagirov's incremental algorithm. Preliminary numerical tests on 14 real-world databases show the efficiency of the new algorithm with respect to the standard k-means algorithm and Ordin-Bagirov's incremental algorithm.

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