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UPPER BOUNDS ON CERTAIN FUNCTIONALS DEFINED ON GROUPS OF LINEAR OPERATORS*

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Abstract. The problem of estimating certain functionals defined on a group of linear operators generating a group induced cone (GIC) ordering is studied. A result of Berman and Plemmons [Math. Inequal. Appl., 2(1):149–152, 1998] is extended from the sum function to Schur-convex functions. It is shown that the problem has a closed connection with both Schur type inequality and weak group majorization. Some applications are given for matrices.

Key words. Group majorization, GIC ordering, Normal decomposition system, Cone preordering, Schur type inequality, Schur-convex function, Eigenvalues, Singular values.

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