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Samir Raouafi* (szr0067@auburn.edu), Department of Mathematics and Statistics, Auburn University, Auburn, AL 36832. *Positive Semi-Definite Block Matrices and Norm Inequalities.*

Positive semi-definite block matrices occur as an efficient tool in matrix analysis and quantum information theory. In particular, those partitioned in two by two blocks allow to derive important norm inequalities. Hiroshima's 2003 result, which provides a majorization criteria for distillability of a bipartite quantum state, shed light on an interesting norm inequality in matrix analysis. In this talk, we will discuss some extension of this inequality. Furthermore, we will constructively provide a counter-example of Bourin-Lee-Lin's conjecture. (Received September 11, 2020)