

Mean Inequalities Associated with Circular Cones

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Abstract

Mean inequalities on the second order cone have been studied as an extension of the SPD cone. In this talk, we turn our eyes on non-symmetric cones. In fact we investigate two types of decompositions associated with circular cones, and establish their own mean inequalities. These inequalities are ground bricks for further study regarding circular cone optimization. We also find under the same condition some inequalities cannot hold if we apply different decomposition, and correspondingly we raise a conjecture. This is a joint work with Jein-Shan Chen, Chu-Chin Hu, Wei-Cheng Hu, and Ching-Yu Yang (National Taiwan Normal University, Taiwan).