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Second-Order Symmetric Duality for Minimax Mixed Integer Programs over Cones

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Abstract—A duality theorem for a pair of Wolfe-type second-order minimax mixed integer symmetric dual programs over cones is proved under separability and η-bonvexity/η-boncavity of the function $k(x, y)$ appearing in the objective, where $k : R^n \times R^m \mapsto R$. Mond-Weir type symmetric duality over cones is also studied under η-pseudobonvexity/η-pseudoboncavity assumptions. Self duality (when the dual problem is identical to the primal problem) theorems are also obtained.

Keywords—Integer programming, Symmetric duality, Minimax, Self duality, η-bonvexity

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