

On Non-Differentiable Multiobjective Second Order Symmetric Duality

I. Husain^{1,*}, Abha Goyal², and M. Masoodi³

¹Department of Mathematics, Jaypee Institute of Engineering and Technology, Guna, MP, India

²Department of Mathematics, G.G.S. Indraprastha University, Delhi, India

³Department of Statistics, Kashmir University, Srinagar, Kashmir, India

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Abstract—In this paper, we construct a pair of Mond-Weir type second order symmetric dual problems, in which the objective function contains support function and is, therefore, nondifferentiable. For this pair of problems, we validate weak, strong and converse duality theorems under pseudobonvexity – pseudoboncavity assumption on the kernel function that appears in the problems. A second order self duality theorem is also proved under additional appropriate conditions. Discussion on some particular cases shows that our results generalize earlier results in the related domain.

Keywords—Mond-Weir type second order symmetric dual, Support functions, Duality theorems, Pseudobonvexity, Pseudoboncavity, A second order self dual

* Corresponding author's email: ihusain11@yahoo.com