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R N Mohapatra* (ramm@pegasus.cc.ucf.edu), Department of Mathematics, University of Central Florida, 4000 Central Florida Blvd., Orlando, FL 32816. *Generalized Invexity and Higher Order Duality for Variational Problems.*

In this paper we discuss Higher order duality of Mangasarian type and Mond-Weir type for nonlinear variational problems. Under generalized invexity assumption which compose the primal problem, we derive higher order duality results. we also consider problems with weak duality, strong duality and converse duality. We shall consider examples and counter examples in support of our investigation. (Received September 17, 2010)