Dynamics of Decision Making in Traditional Companies Using Three-Level Quadratic Programming Problem with Random Rough Coefficient in Constraints

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Abstract — This paper presents three-level quadratic programming problem with random rough coefficient in constrains. At the first phase of the solution algorithm, and to avoid the complexity of this problem, we begin with converting the rough nature in constraints into equivalent crisp form. At the second phase, a membership function is constructed to develop a fuzzy model for obtaining the optimal solution of the three-level quadratic programming problem. An auxiliary problem is discussed as well as an example is presented.

Index Terms—Rough parameter, Quadratic programming, three-level programming, rough in constraints

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