CONSTRUCTION OF A POSSIBILISTIC REGRESSION MODEL BASED ON POSSIBILITY GRADES WITH VAGUENESS AND RELATIONSHIP WITH PARAMETERS

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ABSTRACT. A possibilistic regression model is an interval-type model. An interval-type model intuitively helps us to understand the possibilities of the target system. The data distribution defines the possibility interval of the system, which may hinder our understanding of the analysis results. Improved models have reported using outlier problem approaches. We propose models to deal with the vagueness included in a possibility grade derived from a possibilistic regression model and samples. Unfortunately, the results obtained by the proposed models were not as expected. Then, the improved model was proposed to handle the vagueness included in possibility grades. The numerical example confirmed that the proposed model could eliminate the influence of unusual samples and describe the possibilities of a focal system. The paper reports the improved model and the results by using a numerical example.