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A DECISION MAKING APPROACH BASED ON WEIGHTED FUZZY SOFT SET

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Abstract. This paper is aimed at developing an approach of a real life decision making problem with respect to an weighted fuzzy soft set with preference. This paper introduces weighted fuzzy soft set and studies some of its properties. This paper also enquires about the relations on weighted fuzzy soft sets. Finally, a real life decision making problem in weighted fuzzy soft set is proposed.

Keywords: weighted fuzzy soft sets; weighted fuzzy soft relations; level set; decision making.

2010 AMS Subject Classification: 94D05, 68U35.

1. INTRODUCTION

Many real life problems in society, economics, management and engineering are uncertain and imprecise. To dealing with uncertainty there are many theories, such as probability theory, fuzzy set theory [2], intuitionistic fuzzy set theory [3], interval mathematics, rough set theory [4] etc. But all these theories have their own difficulties due to lack of parametrization of the theories. Molodtsov [1] proposed the notion of soft set theory to deal with the intrinsic flows of the above mention theories. Maji et al. [7, 8] continued the study and gave first practical example of the soft set in decision making problem by constructing comparison table. It is observed that the application of soft set theory is in various areas, such as forecasting [5], decision

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