

**A NEW METHOD USING THE GEOMETRIC MEAN TO SOLVE TETRAD  
FUZZY TRANSPORTATION PROBLEMS**

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Globally, the transportation problem is employed in the concrete obstacles. A transportation problem is crucial for the production business, where optimisation techniques are functional for solving multi-objective problems and network flow analysis. However, in real-world problems, Fuzzy Transportation problems (FTP) are accurate and widely used in engineering applications and fields such as Operation Research, management science, and control theory. The main goal of this research is to determine the lowest transportation cost of moving certain goods through a capacitated network where supply and demand for nodes, as well as the capacity of edges, are represented as tetrad (trapezoidal) fuzzy numbers. The ranking method is one of the most common methods for solving fuzzy transportation problems (FTP). Instead of using the ranking method to get the best solution to the FTP, a new method is proposed using geometric means to solve a tetrad FTP, where demand and supply are all represented as tetrad fuzzy integers. This approach is easy to understand and applicable to real-life transportation problems.

**Keywords:** Fuzzy Transportation Problem, Geometric Mean, Initial Feasible Solution, Tetrad Fuzzy Transportation Problem.