

## Electrical Load Estimation Using Estimated Fuzzy Linear Parameters

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**Abstract :** A new formulation of fuzzy linear estimation problem is presented. It is formulated as a linear programming problem. The objective is to minimize the spread of the data points, taking into consideration the type of the membership function of the fuzzy parameters to satisfy the constraints on each measurement point and to insure that the original membership is included in the estimated membership. Different models are developed for a fuzzy triangular membership. The proposed models are applied to different examples from the area of fuzzy linear regression and finally to different examples for estimating the electrical load on a busbar. It had been found that the proposed technique is more suited for electrical load estimation, since the nature of the load is characterized by the uncertainty and vagueness.

**Keywords :** fuzzy regression, load estimation, fuzzy linear parameters, electrical load estimation

**Conference Title :** ICSR2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020