



## SciForum MOL2NET Fuzzy Membership Roster Method based Selection Rule for Parameter Reduction

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### Abstract

In the present study, an attempt is made to propose a new operational technique for weather forecasting at Kolkata (22.53° N, 88.33° E), India, during the pre-monsoon season (March, April and May). The newly suggested technique is based on fuzzy membership roster method. It can handle inherent non-linearity in a physical phenomenon. It is interesting to note that for the prediction of weather of next 12 hours based on Radio/Rawin Sonde observation at 1200 UTC of a day, the fuzzy membership roster method is better than any previous technique. Although the previous methods are however almost equally suitable to predict the weather of the next 12 hours based on Radio/ Rawin Sonde observation at 0000 UTC. Our main objective is to reduce the number of parameters without losing any primary information for predicting the future situation. It is interesting to note that the data has been reduced from 20 in number to 8 and 12 parameters in two different situations to furnish more than 70% correct result. The degrees of compatibility are defined using a training data set for the period 1985-1996 and validated for the period 1997-1999.

### Keywords

Convective development, forward selection rule, fuzzy membership roster method, in- stability.

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