A FUZZY SYSTEM AIDS VISIBILITY FORECASTING

Sarawut Sujitjorn¹ Pairoj Sookjaras² Wongwit Wainikorn³

Abstract

This paper describes the innovative implementation of a fuzzy system that assists meteorologists in forecasting visibility. The forecast made is for a restricted area, Don Muang Air Base, in Bangkok. The subjective view of an experienced human forecaster was modelled verbally and a set of forecast rules and a fuzzy system could then be devisede. The system utilized the fuzzy inference mechanism and was coded in FORTRAN. The system produces relatively good results even though there are some errors due to the fuzzification/defuzzification processes and truncation in computational terms.

Key words: Weather prediction, linguistic variables, fuzzy inference, human modelling.

¹ Ph.D. Member IEEE. Assistant Professor, School of Electrical Engineering, Institute of Industrial Technology, Suranaree University of Technology, Nakhon Ratchasima 30000, Thailand (formerly with the Royal Thai Air Force Academy).

² B.Sc. Weather Forecast Officer, Meteorology Department, Royal Thai Air Force, Bangkok, Thailand, 10220.

³ B.Sc. Pilot, Flight Operation Department, Thai Airways International Ltd., Bangkok, Thailand, 10900.