Dew Point Temperature Estimation Using Smart Computing Design

setareh amopoor*,sodabeh porzaker arbani,

Abstract Water vapor density is a very important problem that may have serious problems, for example, corrosion of metals and protective coating of tools, devices and wind systems. Therefore, the dew point temperature of air at atmospheric pressure should be estimated with the aim of designing and applying the appropriate drying agent type. In the current work, two models are based on statistical learning theories, namely, the least squared support vector machine (LSSVM) and the adaptive neural fuzzy system (ANFIS), to predict the dew point temperature of humid air at atmospheric pressure over a wide temperature range and Relative humidity has been developed. In addition, Genetic Algorithm (GA) has been used to optimize the parameters of these models. In this regard, a set of available data includes 1300 humidity data points in the range of 0 to 50 ° C, relative humidity up to 100%, and atmospheric pressure. Estimates have been found to be very good with the reported data. The values obtained mean square error and correlation coefficient for LSSVM and ANFIS models were 0.000016, 1, 0.998, 382403, 0.9987, respectively. At present, tools can be a huge practical value for engineers and researchers as a quick review of the dew point of wet weather[9]. Keyword: Dew Point, Computational Intelligent Design, Neural Fuzzy Interface System, Backup Vector Machine, System Dryer

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