AIR QUALITY MODELING AT SIDCO INDUSTRIAL ESTATE, COIMBATORE USING ANN MODEL

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ABSTRACT

This study has investigated the potential use of systematic approach to develop Artificial Neural Network (ANN) predicting models for the concentration of pollutants at a specific area in SIDCO, Coimbatore. The goal was to determine the concentration of PM_{25}, PM_{10}, and TSPM in the atmosphere according to their relationship with the month and pollutant concentration. Four models were run using Artificial Neural Networks, in the first three models, Months (1-12) were considered as input vectors and Concentrations of PM2.5, PM10 and TSPM were considered as targets separately in each model. In the fourth model, Concentrations of particulate matter $PM_{2.5}$, PM_{10} and TSPM were considered as input vectors, and months were considered as targets. Corresponding results were obtained for each model with R value ranges from 0.40302 to 0.9045.The models developed were reprogrammed and trained in such a way to predict the pollutant concentration in a particular month.

KEYWORDS: Air Comprises, Mixture Contains a Group, Air Quality Modeling