DATA QUALITY CONTROL AND AIR POLLUTUIN NOWCASTING BY NEURAL NETWORKS

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ABSTRACT

This work illustrates the use of Artificial Neural Networks (ANNs) for data quality control of environmental time series and for reconstruction of missing data. ANNs are applied to the following problems: i) short-term predicting of air pollutant concentrations in urban areas, ii) interpolating and extrapolating daily maximum temperature, iii) replacing time distribution with spatial distributed information (pollutant concentrations at different measuring sites). Observed versus predicted data are compared to test the efficacy of ANNs in simulating environmental processes. Results confirm ANNs as an improvement of classical models and show the utility of ANNs for restoration of time series.