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Interactive Comment

Interactive comment on "Nonlinear relationships between atmospheric aerosol and its gaseous precursors: Analysis of long-term air quality monitoring data by means of neural networks" by I. B. Konovalov

Anonymous Referee #2

Received and published: 25 February 2003

Summary

This manuscript employs neural networks to extract the relationship between particulate matter and its precursors in urban smog. The paper is very clearly written and straightforward. Most important, it illustrates the power of neural networks in establishing complicated nonlinear relationships and how meaning can be extracted from the neural network weights.

Critique

1. TSP was used as an indicator of atmospheric PM but many studies have shown that



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it is a poor surrogate for PM10 and PM2.5, which are more closely related to health effects. This is especially so in the eastern portions of the Southern California Air Basin where cement plants appear to generate a substantial mass of coarse material that does not contribute to PM10 but does contribute to TSP. Further justification for the use of TSP should be given, or the analysis should be repeated with PM10 or PM2.5.

2. Two lines before equation 7, it is stated that 50 networks are used. No justification is given for this choice. In particular, why not use the 5 best networks instead of all 50?

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