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## Analysis of Key Features of Non-Linear Behavior Using Recurrence Plots. Case Study: Urban Pollution at Mexico City

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### ABSTRACT

The use of Recurrence plots have been extensively used in various fields. In this work, Recurrence Plots (RPs) investigates the changes in the non-linear behaviour of urban air pollution using large datasets of raw data (hourly). This analysis has not been used before to extract information from large datasets for this type non-linear problem. Two different approaches have been used to tackle this problem. The first approach is to show results according to monitoring network. The second approach is to show the results by particle type. This analysis shows the feasibility of using Recurrence Analysis for pollution monitoring and control.

### KEYWORDS

Recurrence Plot; Air Quality; Air Pollution Modelling; Atmospheric Pollution; Recurrence Quantification Analysis

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