

ARIMA MODEL ESTIMATION FOR URBAN OZONE AT THE CANARY ISLANDS AND ITS RELATIONSHIP WITH OTHER POLLUTANTS

H. Alonso, L. Cana, B. Gonzalez, P. Sancho

Physics Department, UPLGC, 35017 Las Palmas de Gran Canaria (Spain)

Based on the Ozone hourly data and other different pollutants as SO₂, SPM, Nitrogen Oxides and CO obtained at an urban station placed close to a power plant of Las Palmas de Gran Canaria (Canary Islands), an ARIMA model has been determined to describe its evolution. First, trend and spectral analyses using the Fast Fourier Transform (FFT) to detect the different periodicities have been carried out. Once the model has been identified, the different relationship between the Ozone and the other mentioned pollutants have been determined. In order to detect these relations, the Cross-Correlation Functions (CCF) between the different prewhitened series have been used. This technique has allowed to determine the characteristic time dependence on each one, caused by the photochemical transformations between the pollutants, showing different lags between them.