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ROAD TRAFFIC AND CANYON STREET EFFECT ON AIR POLLUTION IN TIARET CITY, ALGERIA

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ABSTRACT

The purpose of the study is to infer the effect of road traffic and urban morphology, characterized by the Landsberg construction index, on the spatial distribution of fine particulate in the air taken through a two-stage impactor DEKATI. To do this, a methodological approach based on the implementation of a geographic information system was adopted. The canonical analysis of correlations reveals that mass concentrations of PM10 are correlated with road traffic intensity and urban morphology. The mass concentrations of PM2.5 present a strong correlation with the traffic congestion. Also, additional work is done to estimate the concentrations of lead (Pb) adsorbed to each fractions of PM. The results shows that the concentrations of lead do not exceed 0.5 and 0.6 µg/m^3 with average values of 0.25 ± 0.075 µg/m^3 and 0.23 ± 0.080 µg/m^3 for PM10 and PM2.5 respectively.

Key words: PM10, PM2.5, Pb, DEKATI impactor, Landsberg construction index, urban morphology, road traffic.