

## 摘要

汽機車為台灣民眾極為普及之交通工具，然其所排放之廢氣卻是造成懸浮微粒濃度增加主要原因之一，近年來，懸浮微粒對人體之危害備受重視，因此了解汽機車排放之廢氣與懸浮微粒濃度變化，乃空氣汙染之重要議題。本研究蒐集全台四處交通區空氣品質監測站之 PM<sub>10</sub>、氣象及化學因子等資料，經篩選揚塵事件日後，使用皮爾森相關係數探討 PM<sub>10</sub> 與氣象、化學因子之間的相關性，最後應用線性迴歸建立懸浮微粒預測模式。研究結果顯示，PM<sub>10</sub> 濃度升高之時間多為交通之尖峰時刻，因此其與氣象因子之相關性低於化學因子。

(**關鍵詞**：懸浮微粒、迴歸分析、PM<sub>10</sub>)

## ABSTRACT

Recently, suspended particulate matter with a diameter of less than 10  $\mu\text{m}$  (PM<sub>10</sub>) is a current urban air pollution issue due to its ability to cause human health including respiratory symptoms. PM<sub>10</sub> which mostly affecting urban areas is emitted from various sources in particular the transportation sectors. In this paper, statistical approaches were applied for identifying the influential factors and predicting urban PM<sub>10</sub> concentrations in the traffic areas. Daily records for air quality and meteorological data from four ambient air quality monitoring sites in Taiwan were collected and screened. Pearson correlation coefficient was applied to explore concentrations, which shows PM<sub>10</sub> having a strongly relationship with chemical pollutants than meteorological factors particularly in the rush hours. In addition, the multiple linear regression models were also developed to predict the suspended particles.

(**Keywords** : Suspended particles matter, Regression analysis, PM<sub>10</sub>)