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Characteristics of Airborne $Pm_{2.5}$ and $Pm_{2.5-10}$ in the Urban Environment of Kuala Lumpur

Abstract

Gravimetric and elemental analyses were conducted at a site in Kuala Lumpur from 2008 to 2010, representing the local air quality of urban and traffic. Eighteen elements were detected by ED-XRF and was further analysed for enrichment factor and correlation study. About 19.7% elements were identified and detected in PM_{10}, including 8.2% and 11.5% in fine and coarse fractions, respectively. Al was found predominant in coarse fraction. However its composition in $PM_{2.5}$ was highly enriched pointed to some anthropogenic emission source. In fine particulates, the total mass was mostly dominated by Al, K, Mg and S. Those elements, probably from biomass burning accounted for more than 90% of total elemental detected in $PM_{2.5}$.

Keywords: ED-XRF, Enrichment Factor, $Pm_{2.5}$, $Pm_{2.5-10}$