

环境科学

龙岩市大气中PM<sub>10</sub>的微观形貌特征及组成分析

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摘要:

选择福建省龙岩市环境监测站的大气常规监测点位为采样点, 于2009年9月16日至9月23日进行24 h连续采样, 采用扫描电镜方法分析样品中PM<sub>10</sub>的微观形貌特征和元素组成, 通过与当地典型污染源颗粒物的微观形貌和特征元素进行对比, 确定其主要污染来源. 研究表明: 各类污染源的微观形貌及特征元素均有明显区别, 不同采样点样品中PM<sub>10</sub>的微观形貌特征及元素组成也有差异, 据此分析得出的大气PM<sub>10</sub>颗粒物来源与化学质量平衡受体模型(CMB8.2)源解析结果一致.

关键词: PM<sub>10</sub>; 扫描电镜; X射线能谱; CMB受体模型

Micro morphological Features and Composition Analysis of PM<sub>10</sub> in Longyan City Atmosphere

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Abstract:

Scanning electron microscopy was used for the qualitative analysis of the sources of PM<sub>10</sub>. The routine monitoring points in Longyan City, Fujian Province were chosen for the instantaneous sampling from September 16(th) to 23(rd) in 2009. Micro morphological features and elemental composition of PM<sub>10</sub> in the samples were analyzed and compared to those of the particulates that composed the typical local pollution sources, by which the primary pollution sources could be identified. The results indicate that there are striking differences in micro morphology and eigenement among pollution sources. And the micro morphology and elemental composition of PM<sub>10</sub> vary with the sampling points. The obtained results of source apportionment of PM<sub>10</sub> are in accordance with the analysis by chemical mass balance receptor model (CMB8.2).

Keywords: PM<sub>10</sub>; scanning electron microscope; X ray spectroscopy; CMB receptor model

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