

CONFERENCE ABSTRACTS

TECHNICAL SESSION 3: ENVIRONMENT & CLIMATE CHANGE

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Identification of Total Suspended Particulate (TSP), PM₁₀ and PM_{2.5} sources at quarry site by multivariate analysis couple with wind speed and direction data

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Abstract: The effectiveness of combining principle component analysis (PCA) with wind speed and direction data was demonstrated in this paper. The air quality data (TSP, PM10 and PM2.5) from a quarry in Manjung, Perak was analyzed. Three independent air pollution sources were identified by PCA. The spatial distribution of the sources was obtained by coupling PCA with wind data, which helped in the monitoring of air quality index according to the annual limits established in the legislation. The coupling of PCA with wind data proved and be useful in extracting further information on source contributions and locations.

Keywords: Quarry, particulate matter, Principle Component Analysis (PCA), TSP, PM₁₀, PM_{2.5}