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Influence of Particulate Fractions on Air Quality for Four Major Congested Cities of India over a Period of Four Years from 2006-2009

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Abstract : India is the second most populated nation in the world. With the Indian population hitting the 1.26 billion mark in the year 2014, there has been an unprecedented rise in power and energy requirements throughout the nation. This mammoth demand for energy, both at the industrial as well as at the domestic household level, as well as the increase in the usage of automobiles has led to a corresponding increase in the total tonnage of fuels being burnt every year. This, in turn, has led to an increase in the concentration of atmospheric pollutants over the years with enhanced particulate concentrations being reported for different parts of the country. Considering the adverseness of the particulates, the paper analyses the role of the particulates on the air quality of four major congested cities of the country namely, Kolkata (22034' N, 88024' E), Delhi (28038'N , 77012' E), Bangalore (12058' N , 77038'E) and Mumbai (18.9750° N, 72.8258° E) over a period of four years from 2006-2009. The fractional contribution of the finer fractions to the coarser one has been considered in the study in addition to the relative occurrences of the particulate fractions with respect to the other gaseous pollutants such as sulphur dioxide (SO2) and nitrogen oxides (NOX).

Keywords : air quality, particulates, yearly variation, relative occurrence, SO2, NOX
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