



Personal Air Pollution Exposure Monitoring using Low Cost Sensors in Chennai City

Pavan reddy yasa (1) and Shiva nagendra s m (2)

(1) Indian Institute of Technology Madras, Chennai, India, (ypavanreddy@yahoo.com), (2) Indian Institute of Technology Madras, Chennai, India, (snagendra@iitm.ac.in)

Air quality in many cities is deteriorating due to rapid urbanization and motorization. In the past, most of the health impacts studies in the urban areas have considered stationary air quality monitoring station data for health impact assessment. Since, there exist a spatial and temporal variation of air quality because of rapid change in land use pattern and complex interaction between emission sources and meteorological conditions, the human exposure assessment using stationary data may not provide realistic information. In such cases low cost sensors monitoring is viable in providing both spatial and temporal variations of air pollutant concentrations. In the present study an attempt has been made to use low cost sensor for monitoring the personal exposure to the two criteria pollutants CO and PM_{2.5} at 3 different locations of Chennai city. Maximum and minimum concentrations of CO and PM_{2.5} were found to be 5.4ppm, 0.8ppm and 534.8 $\mu\text{g}/\text{m}^3$, 1.9 $\mu\text{g}/\text{m}^3$ respectively. Results showed high concentrations near the intersection and low concentrations in the straight road.