

Environmental Monitoring: What need to be done

Ajay Agarwal

CSIR-Central Electronics Engineering Research Institute, Pilani 333031 (Rajasthan)

Email: ajay@ceeri.res.in Telephone: 01596-245078

Abstract:

There are mainly three types of environmental monitoring i.e. air, soil and water. Air pollution is a major concern worldwide which is constantly growing. In India, air pollution is mainly monitored by Central Pollution Control Board (CPCB) and other associated agencies. For the purpose there are 573 stations in 240 cities/ towns which are spread in various states and Union Territories of India. They measure various air pollutants including SO₂, NO₂ and Particulate Matter (PM_{2.5}/ PM₁₀) along with meteorological parameters like wind speed and direction, relative humidity and temperature. Considering the vast and diverse area of India, these stations are not in enough numbers, to pin-point various pollution sources. The number of such stations are limited mainly due their high cost of establishment and operations.

There is an urgent need of low-cost air pollution monitoring systems which can be placed in higher density, in the areas which are possible pollutants sources. CPCB stations in integration with low-cost systems can be used to generate pollution maps of various cities, industrial areas and so on, providing the information on real time pollution sources. Such information can be used by pollution controlling agencies to act in pin-pointed fashion.

Apart from outdoor pollution monitoring, there is growing need of indoor air quality monitoring, mainly in closed airconditioned offices, hospitals, schools, etc. and in those workplaces where chemicals are used. However, the indoor air quality monitoring requirements may vary from outdoor air pollution monitoring.

The talk will elaborate on various low-cost sensors and systems being developed in our institute which are suitable for real-time air-quality monitoring, indoor and outdoor as well as in various situation specific assessments.

Keywords: up to 5 keywords

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