Review Paper

Experimental Facilities to Monitor Various Types of Atmospheric Parameters in the Radio and Atmospheric Sciences Division (RASD) of CSIR-National Physical Laboratory


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Abstract
The Indian subcontinent with Himalayan Mountains on northern side, Bay of Bengal on eastern side, Arabian Sea on the western side and Indian Ocean on the southern side presents a unique natural setting with highly variable climatic features. The seasonal variation in North India is highly pronounced whereas in southern India it is moderate, the coastal areas are influenced by cyclones, north western India dominated by western disturbances and desert conditions. Added to these natural influences the rapid urbanization of regions resulted in changing atmospheric conditions leading to sudden occurrence of natural calamities. Prediction of these events requires very reliable climatic models which is a gigantic task. To develop climatic models suitable to our country, huge reliable data base of atmospheric parameters is required. Keeping this objective in view the Radio and Atmospheric Sciences Division of National Physical Laboratory has been engaged in monitoring the atmospheric parameters using various facilities with focus on northern plains. The present paper describes the latest research activities using the existing facilities and future activities and facilities planned in this division.

Keywords
Atmospheric sciences – Trace gases – Aerosols – Monitoring equipment – Climate change – Himalayas