Multi-year Measurements of Aerosols at Jaipur, a Site in Northwestern India

S. Verma[1], D. Prakash[1], S. Payra[1] and B. Holben[2]

[1]Birla Institute of Technology Mesra, Ranchi, India; 919610895726, E-mail: verma.sunita@gmail.com
[2]National Aeronautics & Space Administration (NASA), Goddard Space Flight Center, Greenbelt, MD 20771

During the period from April 2011 to March 2015, *in situ* measurements of aerosol optical properties were conducted at an urban site in Jaipur, Northwestern, India as a part of research initiative at Birla Institute of Technology Mesra, Jaipur campus with support from Department of Science and Technology, Govt of India over Jaipur (26.9°N, 75.8°E, 450m asl), located near to Thar Desert in the state of Rajasthan, India.

In this study, the variations in Aerosol Optical Thickness (AOT) and its spectral properties, especially in summer and winter seasons, from year 2011 to 2014 are analyzed. The NASA Aerosol Robotic Network (AERONET) Level 2 quality controlled data is also used in the present study. The seasonal trends in AOT together with particle sizes are evaluated with respect to the two primary contrasting seasons in the present study. The mean AOT is greater in the summer (>0.5) with a corresponding low angstrom exponent (AE) values due to dust episodes. A high AOT is also observed in winter but with high AE value denoting the contribution of secondary particle due to local pollution. The intercomparison of the results from other monitoring networks across Indo gangetic Plains (IGP) will also be presented.

Keywords: Aerosols, AOT, Size distribution

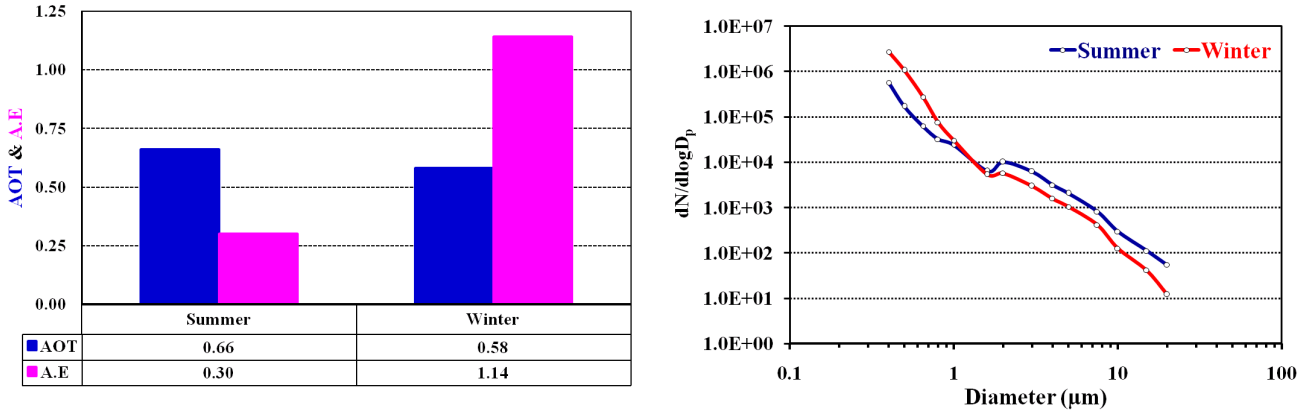

Figure 1. The mean AOT and ANC during summer and winter over Jaipur (Northwestern, India).