## Preliminary Results on Black Carbon Aerosol Mass Concentration Variation at Rajkot: A Semi Arid Zone in Western India

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Black carbon (BC) aerosol mass concentrations are being measured using Aethalometer at Rajkot since May 2008. The average BC mass concentrations over Rajkot during May 2008 to December 2009 are found to vary from a low of  $0.7 \, \text{g m}^{-3}$ to a high of 5.3 g m<sup>-3</sup>. BC values lie in the range of 0.2-0.9 g m<sup>-3</sup> in the month of May while these values lie in the range 2 to 12  $\text{g m}^{-3}$  in the month of December. The December average BC mass concentrations are about 4-13 times higher than those measured during May. BC mass concentrations are found to show diurnal and day-to-day variations. Two peaks (one in the morning and the other one in evening) are shown in diurnal variations. The peaks occur mainly due to fire wood burning, fumigation effect of boundary layer and gradual increase in the anthropogenic activities. Correlation of monthly mean BC mass concentrations with meteorological parameters such as wind T (difference between maximum and minimum temperatures in a day) and speed, Relative humidity yielded regression coefficients of 0.86, 0.68 and 0.49, respectively indicates that BC mass concentrations over Rajkot arise both due to local sources and long-range transported pollutants.