## Strontium Isotope Composition of Mineral Dust over a Semi-Arid Location in Western India: Implication to the Provenance

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Mineral aerosols constitute a major fraction of global aerosol abundance, particularly over continental region and the long-range transport of these soil derived particles has been reported to have major role in the transport of important micronutrients and trace elements to remote oceanic regions. In this study Sr isotopic composition has been measured in aerosol samples collected from Ahmedabad, a location in a semiarid region in western India, using Isoprobe-T Thermal Ionization Mass Spectrometer (TIMS). The <sup>87</sup>Sr/<sup>86</sup>Sr ratio is used as a tracer to identify the probable source regions from which the mineral aerosols are originating as these particles are produced by weathering processes of parent rocks that would possess characteristic ratios. Strontium concentration in silicate fraction of aerosols varied from 67 µg g<sup>-1</sup> to 165  $\mu$ g g<sup>-1</sup> of total mass of aerosol with an average value of 115  $\mu$ g g<sup>-1</sup> during the sampling period. The <sup>87</sup>Sr/<sup>86</sup>Sr ratio ranges from 0.71164 to 0.71817. The higher <sup>87</sup>Sr/<sup>86</sup>Sr ratios are indicating the transport of mineral aerosols from the northern region, originating from the Thar Desert and the Indus Plain of Pakistan. The lower values suggest the dust originating from western region where soil derived from the Oman desert and/or the Deccan Trap basalt dominates. These observations are consistent with the air-mass back-trajectories. From these preliminary results, it is evident that <sup>87</sup>Sr/<sup>86</sup>Sr can be used as tracer to identify the different sources of mineral aerosol over this region.