

**Air ion variation during morning period (06:00-08:00 hours) at rural station
Ramanandnagar (17° 4' N 74° 25' E) India**

Atmospheric Ions, Clusters, and Nanoparticles

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ABSTRACT

The atmospheric-electric processes can be understood only if it is assumed that the atmosphere is electrically conducting. The presence of aerosol in the air was found to be very greatly affecting the conductivity. Since the aerosol particles are very large compared to the ions, an ion is more likely to strike against aerosol-particle, and give up its charge to it or to adhere to the surface, than to collide with an ion of opposite sign. In this way, the rate of loss of conductivity is rapid. To measure small currents (AD549JH) amplifier is used by converting it into a voltage, which is usually linearly related to the input current. In January average positive air ions were 9×10^2 ions per cm^3 , starts decreasing and reaches to minimum (1.2×10^2 ions per cm^3) in April. From May starts increasing and reaches to 9.1×10^2 ions per cm^3 in June. Average negative air ions were 6×10^2 ions per cm^3 in January. In February average negative air ions were 5.85×10^2 ions per cm^3 . From February starts decreasing and reaches minimum (1.2×10^2 ions per cm^3) in April. In June average negative air ions were 9.4×10^2 ions per cm^3 . Average negative air ions were 3×10^2 ions per cm^3 in July. From July average negative air ions starts increasing and reaches maximum (8.2×10^2 ions per cm^3) in September. The air quality is depends on number of negative air ions present in the atmosphere. In January as compared negative air ions positive air ions were more in the atmosphere. Therefore atmosphere in January month is very harmful to human health during morning period.

Keywords: Aerosol, Air Pollution, Cluster ion, Air quality.