

Size-Fractionated Water-Soluble Inorganic Salts of Nano/Micron Aerosols in Southern Taiwan

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Abstract. The distribution of nano/micron inorganic ions in size-segregated suburban aerosol of southern Taiwan was studied for a PM episode and a non-episodic pollution period. Inorganic species, especially nitrate, were present in higher concentrations during the PM episode. Sulfate and ammonium were the dominant anion and cation, respectively, accounting for a minimum of 49% of the total anion or cation mass. Peak concentrations of these species occurred at 0.54 μm in the droplet mode during both non-episodic and PM periods, indicating an association with cloud-processed particles. For total cations and total inorganic anions, major contributing particles were in the droplet mode, with least in the nuclei mode.

Key Words: Size distributions; Nanoparticles; Episode; Tropospheric aerosols; In-cloud processes.