

particles were present as liquid droplets in the lower stratosphere, and the most probable liquid which reacts directly with calcium upon impactation under stratospheric conditions is obviously hydrated sulfuric acid.

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## AIRCRAFT MEASUREMENTS OF AEROSOL IN THE FREE TROPOSPHERE (Abstract)

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Aircraft measurements of aerosol in the free troposphere were made in 1982 and 1983 in order to investigate the behavior of the background aerosols. Number concentration and size distribution of Mie particles (size range 0.3–1.0  $\mu\text{m}$ ) were measured by using a light scattering aerosol particle counter. The particle counter was improved to be suitable for aircraft measurement in the free troposphere. Eight vertical profiles and five horizontal distributions of Mie particles were obtained up to about 8 km over the northern and southern coastal areas of the main island of Japan. In some cases, the influence of local atmospheric pollution originating from the land surface was observed on the aerosol concentration at altitudes of 5–6 km. Measurements at altitudes of 6–8 km over the Sea of Japan showed the existence of stratospheric aerosols. The background concentration of Mie particles was about  $0.1 \text{ cm}^{-3}$  at altitudes of 6–8 km in the free troposphere.

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## ON THE FORMATION OF SNOW CRYSTALS OF THE "GOHEI" TYPE (Abstract)

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In order to study the crystal structure, formation mechanism, and growth mechanism of the snow crystals of cold temperature types, especially the "Gohei" type, experiments using a new diffusion type of cold chamber were carried out. As a result, the "Gohei" type crystals were also made artificially.

To know the presence of a rule in the tip angle of "Gohei" type, microphotographs and replicas of the crystals of the polar regions were available for examination. It was found that the number frequency of the tip angle had a maximum peak around  $77^\circ$  and a minor peak around  $54^\circ$ . The distribution around  $66^\circ$  was indistinct.