

FORMATION OF SIDE BRANCHES OF DENDRITIC ICE CRYSTALS
GROWING FROM THE VAPOR PHASE (ABSTRACT)

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σ^* is the critical supersaturation where kinetic roughening takes place. When the supersaturation $\sigma < \sigma^*$, prismatic facets are formed at the tips of primary branches of dendritic ice crystal. Then, the side branches are formed as a result of the shape instability of the prismatic facets with changing supersaturation. In the next place, when the supersaturation $\sigma > \sigma^*$, the tip shape of primary branches of dendritic ice crystal becomes round. In this case, the side branches are formed as a result of the change in the tip width of primary branches with changing supersaturation. Snow crystals observed in Antarctica are discussed on the basis of these experimental results.

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