


[16th Conference on Planned and Inadvertent Weather Modification](#)

1.4

Satellite Retrieved Microphysical Properties of AgI Seeding Tracks in Supercooled Layer Clouds**Daniel Rosenfeld**, The Hebrew University of Jerusalem, Jerusalem, Israel; and X. Yu and J. Dai

NOAA/AVHRR images revealed conspicuous tracks of glaciated cloud in thick supercooled layer clouds over central China. These tracks were identified as artificially produced by cloud seeding operations at the -10°C isotherm less than 1 km below cloud tops, aimed at precipitation enhancement, by means of AgI acetone generators. Cloud top temperature varied between -13°C and -17°C . The glaciation became apparent at cloud tops about 22 minutes after seeding. The glaciated tops sank and formed a channel in the supercooled layer cloud. The rate of sinking of about 30 to 40 cm s⁻¹ is compatible with the fall velocity of ice crystals that are likely to form at these conditions. A thin line of new water clouds formed in the middle of the channel of the seeded track between 38 and 63 minutes after seeding, probably as a result of rising motions induced by the released latent heat of freezing. These clouds disappeared in the more mature segments of the seeded track, which continued to expand throughout the observation period of more than 80 minutes. Using the brightness temperature difference between 10.8 and 12.0 μm allowed observing the seeding signature deep in the clouds, even when obscured under thin supercooled layer clouds. This is the first report of effects of advertent cloud seeding for precipitation enhancement are detected and analyzed based on satellite observations. It opens new possibilities of using satellite for directing and monitoring weather modification experiments and operations.  [Recorded presentation](#)

[Session 1, all aspects of planned and inadvertent weather modification](#)**Monday, 10 January 2005, 9:00 AM-10:00 AM**[Previous paper](#) [Next paper](#)[Browse or search entire meeting](#)[AMS Home Page](#)