



CAIPEEX Science Experiment to investigate seeding effect and signature : An overview

Thara Prabhakaran and the CAIPEEX Team
India (thara@tropmet.res.in)

Cloud Aerosol Interaction and Precipitation Enhancement Experiment was conducted in 2018 over the rain shadow region of southern Indian peninsula. The experiment had a strong research component to investigate scientific basis for cloud seeding. The cloud seeding effect in cloud, leading to precipitation are documented. The experiment involved two aircraft, ground based Dual polarized C-band radar and various other ground based instrumentation; including a rain gauge network. Both randomization and physical experiments were conducted during 2018. The physical experiments for both hygroscopic and glaciogenic seeding were attempted with flares. The seeding hypothesis is tracked with detailed airborne observations and radar data. Seeding signature is investigated in the cloud with different type of observations. The dual polarization parameters and hydrometeor classification together with inferences from cloud imaging probe were used to identify relevant cloud processes. Detailed cloud microphysical simulations with bin microphysics were also attempted to get a regional perspective on the seeding effects. Salient features of the experiment and novel method used to track seeding signature will be illustrated.