

Particle Shattering Analysis of Airborne Microphysical Probes Using IMPACTS Observations **IMPACTS** David Delene, Christian Nairy, Aaron Bansemer, Andrew Detwiler, Greg McFarquhar, and Andrew Heymsfield





Plot showing relationship between aircraft pitch angle and true air speed during speed run segments on 19 and 25 February 2022. The aircraft pitch angle modifies the Hawkeye tube's air flow alignment and may affect the amount of shattering.

All speeds runs will be analysed and grouped by cloud conditions to determine the impact of tube orientation on particle shattering amount. Parameters such as median mass diameter, total liquid and ice mass, and particle habit will be investigated to determine impact on the amount of particle shattering. Several processing methods and different interdistributions with useful uncertainties that would allow scientific analysis to be conducted.



90 100 110 120 130 140 150 160 170 180 **True Air Speed (m/s)**

Future Work