

## Cross-Platform Synthesis of Cloud Microphysical Data

**Purpose:** To permit generation of a *consistent* cross-platform cloud drop size distribution data set.

**Proposal:** Compare LWC probe with integrated size distributions to understand instrument biases. Each group could use these comparisons to correct other instruments to be consistent with their own!

### Method:

- For the LWC probe, use any probe that is well-characterized. In particular, good size-dependent efficiency curve for the instrument.
  - we prefer the Gerber PVM because there is a reference calibration (spinning disk); and the size-dependence of the PVM sampling is somewhat well-characterized (see Figure)
- Bin cases according to BOTH mean volume diameter (MVD) and LWC.

	LWC 0.1 - 0.2 g/m <sup>3</sup>	0.2 - 0.3 g/m <sup>3</sup>	0.3 - 0.4 g/m <sup>3</sup>	0.4 - 0.5 g/m <sup>3</sup>
MVD 10 to 15 $\mu\text{m}$				
15 to 20 $\mu\text{m}$				
20 to 25 $\mu\text{m}$				
25 to 30 $\mu\text{m}$				

- In each box, look at size distribution properties:  $N_d$ ,  $d_{10}$ ,  $d_{50}$ ,  $d_{90}$  (10th, median and 90th percentile sizes)



