**Group Discussion for the GLM Validation Studies Session:**

*A Tangled Web of Inter-Relations Affecting GLM Flash DE Estimates*

1. **GLM Instrument Thresholds (Cummins/Bruning work)**
	1. geographic location
	2. time of day
	3. season
2. **Reference Network Quality (various Vendors, and Govt.)**
	1. inherent DE/FAR (depends on # sensors, and sensor quality, local noise sources)
3. **Validation Tools (Bateman, Virts, Cummins, Bruning, …)**
	1. reference network(s) data ingested
	2. spatial matching criteria
	3. temporal matching criteria
	4. analysis region & period
4. **Simulation Quality (Virts, Koshak)**
	1. insight for determining optimal space/time matching criteria
5. **GLM Processing Algorithm Applied**
	1. LCFA, and LESA (Mach et al.)
	2. flash merging CIERRA & flash splitting (Peterson et al.)
	3. L0 compared to L1 (Bitzer)
	4. difficulties of glint filtering (Mach, LMATC, …)
6. **Nature (Lightning & Cloud Characteristics)**
	1. lightning optical source strength
	2. lightning size (convective vigor & flash rate … Bruning/MacGorman)
	3. cloud-scattering properties
		1. optical thickness
		2. particle scattering phase function (cloud microphysics)
	4. normal or inverted polarity storms