**3D-PartMC for mixing state modeling**

**Objective:** Develop WRF-PartMC-MOSAIC (3D particle-resolved model) to model mixing state impacts, together with single-particle measurements from CARES and TCAP.

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**Collaborators:** Larry Berg, Mary Gilles, Ryan Moffet, Jerome Fast, Rahul Zaveri, Alla Zelenyuk

**Funding status:** funded

**Challenges or needed resources/collaborators:** Emissions-inventory composition data, single-particle measurements at many sites in campaigns.

**Summary of progress:** Completed initial integrated 3D code, preliminary work on mixing state measurement comparisons, starting CARES modeling.
**WRF-PartMC-MOSAIC.** Particle-resolved physics and chemistry coupled with 3D dynamics