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Kinetic Potential Model of the Cloud-to-Drizzle Transition

ROBERT MCGRAW, YANGANG LIU, EDWARD LUKE, GUNNAR SENUM,
Brookhaven National Laboratory — It has been nearly a decade since the kinetic potential theory of drizzle formation in warm clouds was introduced [McGraw and Liu, Phys. Rev. Letts. 90, 018501 (2003)], and much progress in understanding the cloud-drizzle transition, especially regarding the role of turbulence, has been achieved within its framework. This poster will begin with an introduction to the kinetic potential idea, working up to the method it provides for predicting drizzle threshold conditions and rates, and concludes with an analysis this year of DOE/ARM cloud parcel vertical velocity measurements - discussing their implications for assessing turbulence fluctuations in water vapor saturation ratio and cloud droplet size.

Robert McGraw
Brookhaven National Laboratory

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