BROOKHAVEN NATIONAL LABORATORY

BNL-96985-2012-AB

OBSERVATIONAL STUDY OF MICROPHYSICS AND DYNAMICS IN ENTRAINMENT-MIXING PROCESSES IN CUMULUS DURING RACORO

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For presentation at the
16th International Conference on Clouds and Precipitation,
Leipzig, Germany
July 30-August 3, 2012

February 2012

Atmospheric Sciences Division/Environmental Sciences Dept.

Brookhaven National Laboratory

U.S. Department of Energy
Office of Science

Managed by
Brookhaven Science Associates, LLC
for the United States Department of Energy under
Contract No. DE-AC02-98CH10886

ABSTRACT

Microphysics, dynamics, and their connection associated with turbulent entrainment-mixing mechanisms are examined using in-situ measurements of cumulus clouds collected over the U.S. Department of Energy's Atmospheric Radiation Measurement Southern Great Plains site during the five-month long RACORO aircraft campaign. The results are compared with those of stratocumulus clouds sampled during the March 2000 Cloud Intensive Observation Period over the same site. Application of the findings to developing parameterization for entrainment-mixing processes in large scale models is explored.