

TITLE: An experimental study of the rainfall variability within TRMM/GPM precipitation radar and microwave sensor instantaneous field of view during MC3E PRESENTATION TYPE: Assigned by Committee (Oral or Poster) CURRENT SECTION/FOCUS GROUP: Atmospheric Sciences (A) CURRENT SESSION: A16. Convective Cloud Lifecycle during the Midlatitude Continental Convective Clouds Experiment (MC3E) AUTHORS (FIRST NAME, LAST NAME): Ali Tokay¹, Walter Arthur Petersen², Patrick N Gatlin⁴, Matt Wingo⁴, David B Wolff³, Lawrence D Carey⁴ INSTITUTIONS (ALL): 1. JCET, UMBC, Greenbelt, MD, United States.

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ABSTRACT BODY: Dual tipping bucket gauges were operated at 16 sites in support of ground based precipitation measurements during Mid-latitude Continental Convective Clouds Experiment (MC3E). The experiment is conducted in North Central Oklahoma from April 22 through June 6, 2011. The gauge sites were distributed around Atmospheric Radiation Measurement (ARM) Climate Research facility where the minimum and maximum separation distances ranged from 1 to 12 km. This study investigates the rainfall variability by employing the stretched exponential function. It will focus on the quantitative assessment of the partial beam of the experiment area in both convective and stratiform rain. The parameters of the exponential function will also be determined for various events. This study is unique for two reasons. First is the existing gauge setup and the second is the highly convective nature of the events with rain rates well above 100 mm h⁻¹ for 20 minutes. We will compare the findings with previous studies.