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Initial observations from the Kinematic Texture and Lightning (KTaL) Experiment

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Many more lightning flashes happen inside clouds than come to ground, and modern VHF Lightning Mapping Arrays (LMAs) readily detect these flashes in four dimensions. In addition to providing a count of flashes, these systems also map the complete extent of the flash in the cloud. Bruning and MacGorman (2013, JAS) noted that an energetic scaling to the flash size distribution had a similar shape and peak as that expected for turbulent kinetic energy in thunderstorms. During the summer of 2015-2016, field observations are being taken with the TTU Ka-band mobile doppler radars under the coverage of the West Texas LMA in order to compare, quantitatively, the covariance of thundercloud turbulence with the flash size distribution. Herein we present initial observations from the field in a range of multicellular and supercellular storms as well as mesoscale convective systems.