ON TORNADOGENESIS IN SUPERCELLS AS DETECTED BY RAPID-SCAN, MOBILE, DOPPLER RADARS

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- TORNADOGENESIS OCCURS VERY RAPDILY IN SUPERCELLS -ADVECTIVE/ORBIT TIME SCALE ~ TIME IT TAKES AIR PARCEL TO GO AROUND VORTEX ~ $2\pi X RMW/V_{\theta}$
- NEED FOR VOLUME SCANS FVFRY ~ 10 s

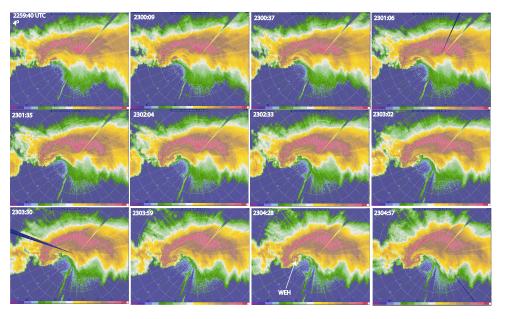


MWR-05XP VOLUME SCANS EVERY $\sim 5 - 20 \text{ s}$

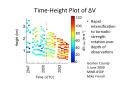


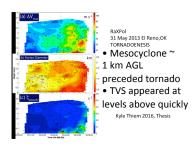
RaXPol

- VOLUME SCANS EVERY ~ 15 - 30 s
- POLARIMETRIC

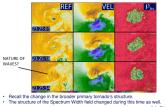


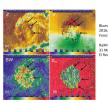
EVOLUTION OF EL RENO, OK TORNADIC SUPERCELL RADAR REFLECTIVITY FACTOR (Z_H) EVERY ~ 30 s AT 4° ELEVATION ANGLE, 31 May 2013 -FROM RaXPol - TORNADO BEGAN ~ 2303 UTC







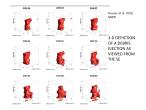


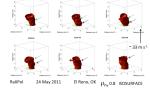


Bluestein et al. 2015 Wea. Forecasting



Composites of Median Radial Velocity &





Houser et al. 2016 Mon. Wea. Rev.

SLUMMARY:

THE FOLLOWING PROCESSES ARE DOCUMENTED:

- TORNADOGENESIS (TVS)
- EVOLUTION OF MULTIPLE VORTICES
- DFBRS FALLOUT
- VERTICALLY PROPAGATING CENTIRI-

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