35th AMS Conference on Radar Meteorology Polarimetric Radar Observation of a Tornado at C-band Raquel Evaristo, Teresa Bals-Elsholz, Adam Stepanek, Bart Wolf, Kevin Goebbert, Anthony Lyza, Travis Elless Valparaiso University, Valparaiso, Indiana

"The Wanatah Tornado"

Occurred at 1344 UTC on 26 October 2010

P2.21

- Produced EF1 damage on the east side of town
- Occurred about 15km from VU c-band polarimetric radar

SYNOPTIC AND MESOSCALE BACKGROUND

- Classic autumnal bomb cyclone associated with intense negative-tilt trough
- Cyclone was explosively deepening at the time of the tornado
- QLCS developed ahead of cold front associated with cyclone
- Embedded circulations in QLCS formed numerous tornadoes across northern Indiana during the morning hours of 26 October



500-hPa analysis from 1200 UTC 26 October 2010.



Surface analysis from 1200 UTC 26 October 2010.

POLARIMETRIC RADAR SIGNATURES OF "THE WANATAH TORNADO"

Strong Reflectivity



ACKNOWLEDGEMENTS Funding of this work through MIT Lincoln Laboratory's NEXRAD

Enhancements Program for the FAA.

Strong Z_{dr}

- location of the tornado. Low ρ_{hv} values are expected as a
- maximum in Z. We believe that the debris was not large
- tornado was wrapped in rain. This is also consistent with the fact that the highest Z and Z_{dr} values were associated









