

**An Automated Method for Polarimetric Tornado Debris Detection**

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Polarimetric weather radars are capable of detecting debris produced by tornadoes if such debris is present within the sampled volume. The polarimetric tornado debris signature can provide beneficial ground truth that a tornado is occurring when real-time visual confirmation is unavailable. A fuzzy logic-based algorithm has been developed to detect automatically tornado debris based upon azimuthal shear, co-polar cross-correlation coefficient, and other relevant parameters. Examples of automated debris detection using data collected by S-band WSR88D radars are provided, and comparisons with tornado paths determined from ground surveys are presented.