

Abstract Submitted
for the TSF12 Meeting of
The American Physical Society

Using Model Helicopters for Meteorological Observations in Support of Tornado Forecasting WILLIAM HARRISON, BRYAN ROSCOE, DAVID SCHAFER, University of Texas at Dallas, HOWARD BLUESTEIN, Oklahoma University, DAVID LARY, University of Texas at Dallas — In order to gain a better understanding of the physical factors involved in tornadogenesis, a complete 3-D profile of winds, temperature, and humidity in the forward-flank and rear-flank gust front regions in supercells is required. Conventional methods of making comparative measurements in and around storms are very limited. Measurements that comprehensively profile the boundary layer winds and thermodynamics are valuable but rare. A better understanding of the physical properties in these boundary layers will improve forecasts and increase warning times in affected areas. Remote-controlled model helicopters are a uniquely qualified platform for this application, allowing us to fully profile these boundary layers. Our system will consist of a swarm of autonomous acrobatic helicopters, each outfitted with temperature, pressure, humidity, and wind speed sensors.

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Date submitted: 17 Sep 2012

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