・開催日時：8 月 4 日午後 3 時半から 1 時間半程度
・場所：京都大学防災研究所Ｅ棟５階 E-517D 室にて
・講演者：DAVID JOSEPH BODINE　（オクラホマ大学 ARRC ポスドク）
・講演題目：POLARIMETRIC RADAR OBSERVATIONS AND NUMERICAL SIMULATIONS OF TORNADIC DEBRIS
・講演内容：
Polarimetric radar observations of tornadoes have revealed unique signatures associated with lofted debris called the tornadic debris signature (TDS).
Recent studies have revealed new applications for TDSs, including tornado detection and near real-time damage estimation. In this study, dual-wavelength TDSs are examined using S- and C-band polarimetric radar data with close temporal and spatial matching of radar scans. Similarities and differences between polarimetric variables at both wavelengths are examined, and compared to damage surveys to illuminate relationships between surface damage and dual-wavelength TDS characteristics. Comparisons between axisymmetric velocity retrievals and polarimetric radar variables are also presented. In the second part of the study, effects of debris loading on tornado dynamics are examined using a Large-Eddy Simulation model. A drag force coupling model is implemented using debris trajectories, and enables two-way momentum exchange between air and debris. For different debris types, including sand-sized particles and wood boards, sensitivity tests are performed to determine how much debris loading must occur change tornado wind speeds. Using T-matrix calculations, equivalent radar reflectivity factor and attenuation are calculated for different debris simulations to determine radar signatures associated with different amounts of debris loading.