

Multilayered Wall Characteristic Extraction for Through Wall Radar Systems

Principal Investigator: Dr. Fauzia Ahmad

Project Summary

eWave Informatics is developing techniques and algorithms for the Army, which are necessary for extracting wall characteristics of a building from a standoff distance. In Phase II, the company is going to expand the capability to characterization of exterior and interior wall combinations, utilizing limited frequency bandwidth, in the presence of ground reflections, wall edge diffraction, and other multipath effects, and will develop prototype radar systems that implement in real-time one or more of the developed techniques. To this end, the Center for Advanced Communications, Villanova University, will assist the company by focusing on experimental performance evaluation of various developed techniques under different operational frequency bands, extension of subsurface imaging algorithms for radar characterization of multilayered walls, and by providing laboratory facilities for test of radar and antenna hardware systems, developed during the Phase II research.