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William P Fox* (wpfox@nps.edu), 2977 Sloat Road, Pebble Beach, CA 93953, and **John Vesecky** and **Kip Laws**. *Using Radar to Identify Persons Carrying Wires*.

The focus of this research was to develop and test a model to show how the sensing and detection can best be accomplished with radar to detect wires on persons. Robust Detection and identification (at a safe standoff distance) of people (in a crowd) and/or animals having wires on their bodies, such as might be used to detonate explosives, is critical to the armed forces. We used radar to begin our detection process. The radar yields the range and Doppler shift history of subjects that strongly scatter radar waves because they have wires attached to them. We separate the suspects from the crowd of subjects by finding the time history of the subject(s) whose time history most closely matches the radar observation of the strongly scattering radar targets (suspects with wires), i.e. their Doppler shift (radial velocity with respect to the radar) history and position information. We develop some probabilistic models to help in finding the suspect. (Received September 16, 2009)