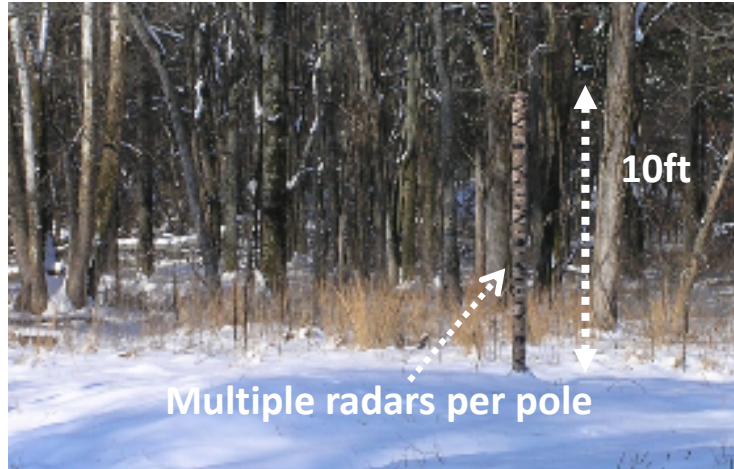


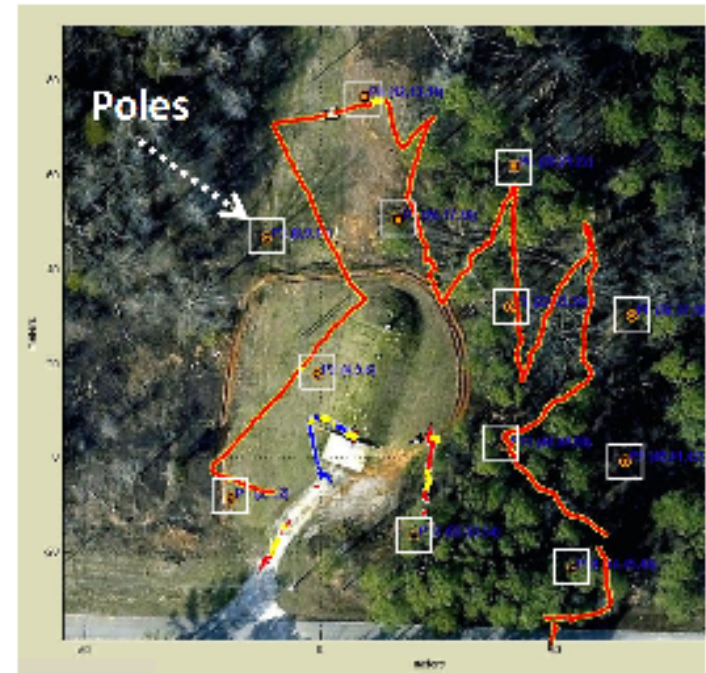
UltraWideband RF Fence: Detection, Classification and Tracking



COTS UWB Radar



UWB RF Fence Post - embedded radars provide multiple look angles needed for target classification



Multiple Poles form a radar sensor field. Targets in field are detected, classified (dismount vs. deer) and tracked

Technology Characteristics:

- Radar Characteristics:
 - Small, low power, low cost, high performance UWB radar
 - Transmits only 0.000050 Watts
 - RF centered at 4.3 GHz with almost 2 GHz of RF bandwidth
 - Combined Mono/Bi/Multi-static operation
- UWB Ranging used to auto locate pole position
- Communications & power options:
 - Ethernet and mains demonstrated
 - Wireless and battery possible
- Ongoing system development (Phase III SBIR) sponsored by DOD Physical Security Equipment Action Group (PSEAG) and managed by NAVFAC ESC

System Characteristics:

- Detect, locate, track targets in high clutter (near metal and in woods)
- High probability of detect, low false alarm
- Multiple radars allow target classification
- Discriminates between dismounts and quadrupeds
- Pole to pole separation distance
 - clear open terrain: 60 meters
 - foliage: 25-30 meters