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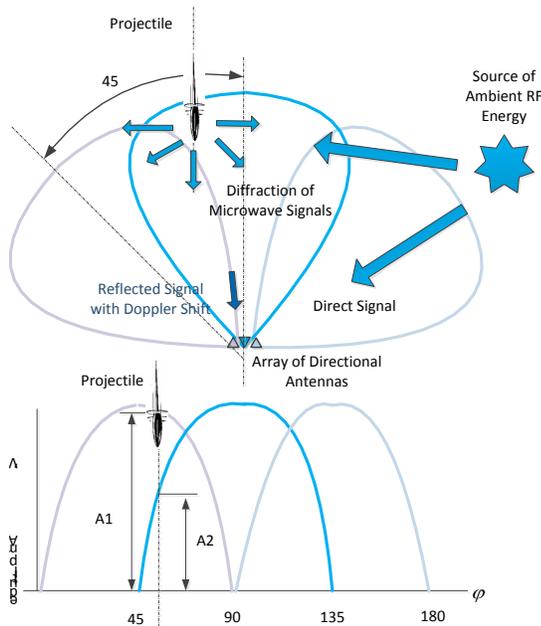
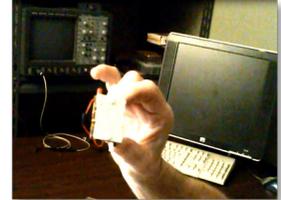
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PASSIVE SMALL PROJECTILE TRACKING RADAR



There are lot of ambient RF/microwave sources: different kinds of communication, radar, navigation and datalink transmitters, and same time lot of moving with different size and speed objects are in battlespace. How passive Doppler radar can detect small projectile in so noisy battlespace? Small arms projectile has specific limited range of velocity which is relatively constant. Doppler frequency shift for small arms projectile and limited range of ambient RF/microwave sources lay in specific narrow band and can be used for arm fire location.

Array of directional antennas in passive radar will receive direct microwave signals from the ambient sources and reflected from objects part of these microwave signals. The radar signals reflected from moving with high speed projectiles will consist of a Doppler frequency shift in determined narrow frequency band. Application of bandpass filter with narrow bandwidth for Doppler signals will allow dramatically increase signal/noise ratio and detect small arms fire with high probability of detection.

REFERENCES

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