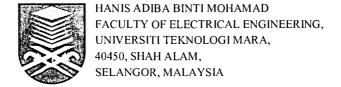
THE EFFECT OF DIFFERENT CROSSING ANGLES ON SIMILARITY AND STABILITY OF TARGET SPECTRA IN FORWARD SCATTERING MICRO RADAR (FSMR) USING GRAPHICAL USER INTERFACE (GUI)

This thesis is submitted in partial fulfillment for the degree of the Bachelor of Engineering (Honours) in Electronic (Communication)
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Abstract

This project highlights the simulation by using MATLAB to identify the effect of different crossing angles on target spectra in Forward Scattering Micro Radar (FSMR) for ground target detection. The main objective is to model and compare the target signatures of moving ground target without the presence of clutter and other external factors that might affect the signals in actual radar sites. FSMR operates at low carrier frequencies within the VHF and UHF bands using omnidirectional antennas. Ability to detect small and stealth target, the use of distributed FSR sensors network that can offers number of interesting features such as detection and classification of target even at low frequency, small and light weight. This makes FSMR an interesting topic to learn about. The algorithm is developed based on Fourier transform for features transformation from time domain signal to power spectrum density. Besides that, new software in producing the target signatures is developed by using Graphical User Interface (GUI) in MATLAB which can be used as a learning material in universities. Therefore, by completing this project with novel features will definitely give a lot of benefit to radar development generally.

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