

Cyclostationary Analysis of Polytime Coded Signals for LPI Radars

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Abstract : In radars, an electromagnetic waveform is sent, and an echo of the same signal is received by the receiver. From this received signal, by extracting various parameters such as round trip delay, Doppler frequency it is possible to find distance, speed, altitude, etc. However, nowadays as the technology increases, intruders are intercepting transmitted signal as it reaches them, and they will be extracting the characteristics and trying to modify them. So there is a need to develop a system whose signal cannot be identified by no cooperative intercept receivers. That is why LPI radars came into existence. In this paper, a brief discussion on LPI radar and its modulation (polytime code (PT1)), detection (cyclostationary (DFSM & FAM) techniques such as DFSM, FAM are presented and compared with respect to computational complexity.

Keywords : LPI radar, polytime codes, cyclostationary DFSM, FAM

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