

“Experimental results of ground moving target detection achieved with the multi-channel SAR/MTI system PAMIR”, pp.122-127

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Abstract – The airborne experimental multichannel SAR/MTI system PAMIR (Phased Array Multifunctional Imaging Radar) has been designed and developed by FGAN-FHR in order to demonstrate some capabilities of future reconnaissance systems. One main feature of these radars is the surveillance of wide areas for moving targets. Since 2003, a special scan-MTI mode has been implemented in the PAMIR system and experimentally tested. This mode enables to observe large regions of the earth due to the scan operation of the antenna. To improve the moving target detection performance, radar bursts are transmitted in five different frequency bands, which allows to avoid blind velocities, to resolve velocity ambiguities and to increase the probability of target detection. This paper presents the scan-MTI mode of PAMIR, the signal processing algorithm, as well as some experimental results achieved with this mode.