



OPTICS- AND RADAR-BASED OBSERVATIONS

F7003R

Propagation Effects & Targets

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In this Assignment, ***Problem 3 - Propagation Effects & Targets***, ...

1 Radar Performance

- 1.a Affects on performance by different phenomena
- 1.b 22 GHz and 60 GHz Operation

2 Radar cross section (RCS)

- 2.a Behaviour of normalized RCS
- 2.b Low specular RCS

3 Radar parameters affecting performance

- 3.a Pulse width
- 3.b Antenna Gain
- 3.c Transmitter Power
- 3.d Number of pulses returned from the target
- 3.e System losses
- 3.f Sensitivity of maximum range to RCS changes

4 Atmospheric studies with MF & HF radars

- 4.a Coherent Echoes at 50-110km
- 4.b Choice of operational frequency & optimal PRF
- 4.c Main Principle of space antenna techniques
- 4.d Apparent and true velocity
- 4.e Deficiency of full correlation analysis for MF/HF

A Appendix

References