

Analysis, Design and Development of a Low Cross Polarization Level Ultra-Wideband Absorber using Resistive Metasurfaces



A THESIS SUBMITTED IN THE PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE AWARD OF THE DEGREE OF

DOCTOR OF PHILOSOPHY

BY

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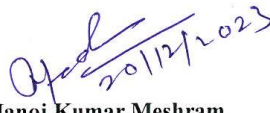
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Saurabh Kumar Srivastava

Dedicated to...

My beloved Parents

&

My son Prasann

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Abbreviations and Symbols (In order of their appearance)

S. No	Abbreviations and Symbols	Full Name
1.	EM	Electromagnetic
2.	HARP	Halpern Anti-Radar Paint
3.	RCS	Radar Cross Section
4.	2D	Two-Dimensional
5.	THz	Terahertz
6.	RAM	Radiation Absorbing Material
7.	EMI	Electromagnetic Interference
8.	EMC	Electromagnetic Compatibility
9.	EEH	Electromagnetic Energy Harvesting
10.	WPT	Wireless Power Transfer
11.	TL	Transmission Line
12.	ϵ_r	Relative Permittivity
13.	FSS	Frequency Selective Surface
14.	CA	Circuit Analog
15.	η_0	Free Space Impedance
16.	μ	Permeability
17.	SRR	Split Ring Resonator
18.	ERR	Electric Ring Resonator
19.	CPRC	Cross-Polarized Reflected Component

20.	MTM	Metamaterial
21.	θ	Oblique Incident Angle
22.	φ	Polarization Angle
23.	TE	Transverse Electric
24.	TM	Transverse Magnetic
25.	DSSR	Double Split-Serration-Ring
26.	PCR	Polarization Conversion Ratio
27.	HPC	High-Performance Computing
28.	$\tan \delta$	Loss Tangent
29.	c	Speed of Light
30.	SPAR	Sinusoidal Periphery Annular Ring
31.	θ_{el}	Electrical Lengths
32.	TLM	Transmission Line Model
33.	PMI	Poly-Methacrylimide
34.	SMD	Surface Mount Device
35.	ϵ_{eff}	Effective Permittivity Of Metasurface Within Stratified

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