

Acknowledgements

I am greatly indebted to my research supervisor Dr Mahesh Kumar and thanks to him for his guidance and friendly support throughout the course of my Ph.D. work. I am grateful to him for introducing me to the area of voltage tunable devices.

My thanks to Dr S R Vadera, Dr Deepak Gopalani and Sh G L Baheti of Defence Laboratory (DRDO) Jodhpur to provide me an opportunity for my Ph. D work at Indian Institute of Technology Jodhpur (IITJ). I also acknowledge to my DRDO colleagues Mahaveer Singh, Ajay Singh Jodha, Dr Vijay Singh Choudhary, Amit Sharma and Dr Pradeep Narayan for their constant support during entire course of my Ph. D. work.

A part of my thesis would have been incomplete without the support of Dr Jitendra Singh, CEERI Pilani, Dr Nirupam Banerjee, Faculty of Science & Technology, University of Twente and Dr Basanta Roul, IISC Bangalore who helped me in various characterizations and interpretation of experimental results. I would like to sincerely thank to Dr Satyajit Sahu and Dr Manikandan Paranjothy of IIT Jodhpur for fruitful discussion during the journey of Ph.D.

It is a pleasure for me to acknowledge and special thanks my IITJ labmates; Sapana Ranwa, Vijendra Singh Bhati, Deepak Bharti, Dr. Saravanan Rajamani, Mohit Kumar and Adarsh Nigam for their invaluable help during experimental work. The kind support and encouragement from each and every member of Department of Electrical Engineering, IIT Jodhpur is appreciated. The experimental facilities and support received from the IIT Jodhpur is gratefully acknowledged.

I express my deepest gratitude to my wife and children for their understanding, love and bearing with me during the Ph.D work. Their support and encouragement made this dissertation possible. It would have never been possible to have my research career without blessings and love of my parents.

Surendra Singh Barala

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List of Symbols

Symbol	Description
C	Capacitance
L	Inductance
Q	Charge
Hz	Frequency
P	Pico; 10^{-12}
M	Mega; 10^6
G	Gega; 10^9
T	Tera; 10^{12}
V	Voltage in Volt
I	Current in Ampere
F	Farad
Q	Quality Factor
A	Area
D	Displacement Electric Field
E	Electric Field
P	Polarisation
N_i	Number of Dipoles
E_c	Coercive Electrical Field
E_g	Band Gap
E_F	Fermi Level
Ar	Argon gas
Mo	Molybdenum
Ni	Nickel
Au	Gold
J	Joule
k	Kilo; 10^3
n	Nano; 10^{-9}
d	Distance
Gy	Gamma Radiation Dose in Gray
n/cm^2	Neutron Fluence
t	Time in second
$\tan \delta$	Dielectric Loss
ϵ_0	Dielectric Permittivity in Vacuum
ϵ	Dielectric Permittivity in Medium
ϵ_r	Relative Dielectric Permittivity
ϵ'_r	Real Part of Relative Permittivity
ϵ''_r	Imaginary Part of Relative Permittivity
ω	Angular Frequency
γ	Gamma Radiation
χ	Susceptibility
μ	Micro; 10^{-6}
Φ	Work Function
2θ	Diffraction Angle in degree

List of Abbreviations

Abbreviation	Full Form
RF	Radio Frequency
IC	Integrated Circuits
MEMS	Micro-Electro-Mechanical System
MOS	Metal-Oxide-Semiconductor
XRD	X-Ray Diffraction
XPS	X-Ray Photoelectron Spectroscopy
MIM	Metal Insulator Metal
FE	Ferroelectric
BST	Barium Strantium Titanate
PZT	Lead Zirconate Titanate
C-V	Capacitance Voltage Measurement
I-V	Current Voltage Measurement
IDC	Interdigitated Capacitor
DC	Direct Current
WLAN	Wireless Local Area Network
GPS	Global Positioning System
BPF	Band Pass Filter
CMOS	Complementary Metal Oxide Semiconductor
MW	Microwave
FOM	Figure of Merit
UV	Ultraviolet Radiation
P-E	Polarisation Electric Field Measurement
TO	Transverse Optical
FCC	Face Centered Cubic Structure
FIR	Far Infrared
MPB	Morphotropic Phase Boundary
K.E.	Kinetic Energy
SKA	Secondary Knock-on Atom Collision
PKA	Primary Knock-on Atom Collision
SK	Stranski Krastanov Film Growth
MBE	Molecular Beam Epitaxy
PVD	Physical Vapor Deposition
TMP	Turbo Molecular Pump
AFM	Atom Force Microscopy
FWHM	Full Width at Half Maxima
SOS	Spin Orbit Spin Splitting
VB	Valance Band
CB	Conduction Band
RMS	Root Mean Sqaure
P_{sat}	Saturation Polarization
P_r	Remnant Polarization
sccm	Standard Cubic Centimeter per Minute

