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A THESIS

Submitted by

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MANONMANIAM SUNDARANAR UNIVERSITY
TIRUNELVELI – 627 012

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ABSTRACT(MODEL)

Recent technological developments in optics and photonics have been drastically influenced by the field of nonlinear optics. Nonlinear optical phenomena plays a pivotal role in many special optical device functions such as direct optical amplification.

ACKNOWLEDGEMENT (MODEL)

I wish to record my deep sense of gratitude and profound thanks to my research supervisor **Dr. <Name>**, <Designation>, <Department name>, <college name>, <Place>, for his keen interest, inspiring guidance, constant encouragement with my work during all stages, to bring this thesis into fruition.

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<NAME INITIAL>

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LIST OF SYMBOLS (MODEL)

Symbol	Meaning
$P_{Interference}$	Interference Power
Q_{PR}^{TX}	*SUs Neighbor nodes*
FrDiv	Frame Division
P_{sig}	Power of Incoming Signal
τ	Noise
T_{ro}	Rotation Time
G_0	Transmitter
β	Total bandwidth
γk	Binary index
P_{TOTAL}	Total Power
$P_{k,n}$	Transmit power of SU

LIST OF ABBREVIATIONS

Abbreviation	Expansion
CRN	Cognitive Radio Networks
PU	Primary User
SU	Secondary User
CR-BS	Cognitive Base Stations
MAC	Medium Access Control
BE	Best Effort Service
SU-BS	Secondary Base Stations
PBDRA	Priority based Dynamic Resource Allocation
CCC	Common Control Channel
CQI	Channel Quality Indicator
PU-BS	Primary User Base Station
RF	Radio Frequency
FCC	Federal Communications Commissions
CR	Cognitive Radio
ITL	Interference Threshold Limit

CHAPTER - 1

INTRODUCTION TO NONLINEAR OPTICS AND CRYSTAL GROWTH

This chapter emphasize the significance and characterization of liquid mixtures using ultrasonic method. A brief review of literature pertaining to the present work is also presented.

INTRODUCTION

Matter exists in three different forms which are solid, liquid and gas. The most striking difference between a liquid and solid is that a liquid does not permanently resist the forces tending to change its shape. A liquid possesses neither the rigidity of a solid nor the fluidity of a gas and so it exhibits properties intermediate to both the states. (Temperly and Trevena 1978) produced definite *evidence* that liquids can withstand tensions of at least tens of atmospheres. Thus, forces between molecules are attractive at large distances and a liquid resists changes of density and cannot resist changes of shape.

Matter exists in three different forms *which* are soli liquid and gas. The most striking difference between a liquid and solid is that a liquid does not permanently resist

Theories of Liquid State

A number of theories of the liquid state are based on the concept of lattice structure in a liquid. A liquid may be considered as a disordered solid. Liquids are

sometimes classified like crystals based on the kind of cohesive forces that hold them together. Ionic liquids consist of ions and electrons. Water molecules are held together by Hydrogen bonds. In many molecular liquids,

Summary

A liquid possesses neither the rigidity of a solid nor the fluidity of a gas and so it exhibits properties intermediate to both the states. (Temperly and Trevena 1978) produced definite *evidence* that liquids can withstand tensions of at least tens of atmospheres.

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Appendices

i. List of Publications.

ii. Reprint of Journal Publication.

iii. Bio-Data.

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1. Jeffrey, M, Samy, L, Domnick, R & Karunya, G, 2012, 'Experimental liquid mixtures of alcohols, Benzene and Isohexanes at Varying Temperatures', Eurasian Journal of Chemical and Petroleum Engineering, vol.223, no.16, pp. 514-514, ISSN : XXXX-XXXX. IF – 0.5., UGC Care List (Category A or B or C or D) – Enclose Evidence.

Attach the Reprint of the Journal Publication

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List of Publications

1.

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