

LATTICE DYNAMICAL STUDIES OF METALS
BASED ON A NEW ELECTRON GAS MODEL

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P R E F A C E

In spite of the concentrated effort of many researchers over the past several years, the exact nature of the interatomic forces in metals still remains an unsolved problem. The study of lattice vibrations in metals is expected to give valuable information in this regard. The present thesis strives to develop a consistent general theory of lattice vibrations in metals and to provide a better understanding of the nature of the interatomic forces.

Most of the work reported in this thesis has been accomplished during 1973-74 when the author spent his time in the Department of Physics, I.I.T., Delhi on leave from the Department of Physics, University of Calicut, Kerala. Some of the results of the author's earlier work have been extended and included in this work. Some parts of this thesis have been published and the rest are awaiting publication.

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C O N T E N T S

<u>CHAPTER</u>		<u>Page</u>
	PREFACE	
I	LATTICE DYNAMICAL STUDIES OF METALS- A REVIEW	1
	1. Introduction	1
	2. Potential Energy and Force Constants	3
	3. Central Forces	5
	4. Angular Forces	5
	5. Volume Forces	7
	6. Lattice Dynamical Models	9
	7. Evaluation of Parameters	15
	8. Scope of This Work	16
II	REVIEW OF THE WORK ON THE EFFECT OF THE ELECTRON GAS ON LATTICE VIBRATIONS	20
	1. Introduction	20
	2. The de Launay Model	21
	3. The Leibfried-Brenig Model	25
	4. The Bhatia Model	25
	5. The Sharma-Joshi Model	27
	6. The Krebs Model	30
	7. The Pseudopotential Scheme	31
	8. Summary	33
III	A NEW MODEL FOR VOLUME FORCES	36
	1. Introduction	36
	2. Free Electron Approximation	37
	3. Response of the Electrons to a Static External Point Charge	44

4.	Response of the Electrons to a Static External Sinusoidal Charge Distribution	46
5.	Response of the Electrons to Lattice Vibrations in Adiabatic Approximation	49
6.	Response of the Electrons to Lattice Vibrations: Equilibrium Situation	50
7.	A New Electron Gas Model	53
8.	Electron Distribution Under Adiabatic Approximation	54
9.	Electron Distribution: Equilibrium Situation	61
10.	Volume Forces	61
11.	Nature of Volume Forces	65
12.	Comparison with Other Models	71
IV	APPLICATION OF THE NEW MODEL TO LATTICE DYNAMICAL STUDIES OF METALS	82
1.	Introduction	82
2.	Dynamical Matrix	83
3.	Dispersion Relations	90
4.	Force Constants	93
5.	Results	95
6.	Influence of the Choice of the Some Boundary Frequencies on the Dispersion Curves	96
7.	Numerical Results and Discussion	100
V	BULK MODULUS OF THE ELECTRON GAS	112
1.	Introduction	112
2.	Kinetic Energy	113
3.	Potential Energy	113
4.	Numerical Results and Discussion	118

VI	VIBRATIONAL FREQUENCIES OF LITHIUM, SODIUM AND POTASSIUM	127
	1. Calculations Using the Pheno- menological Model	127
	2. Results	131
	3. The Pseudopotential Method	137
	4. Comparison of the Results of the Two Methods	146
VII	CONCLUSION	148
	1.. Summary	148
	2. Comments on the New Model	151
	3. Suggestions for Future work	156
	REFERENCES	158

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