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

by

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Thesis submitted to the Indian Institute of Technology, Delhi, for the award of the Degree of DOCTOR OF PHILOSOPHY

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(August 1974)

PREFACE

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.

The author wishes to express his profound gfatitude to Prof. B. Sharan for his constant encouragement and guidance. He is deeply indebted to Dr. V. Rama Murthy for the painstaking guidance and the stimulating discussions throughout the course of this work. The author is obligated to Prof. C.L. Mehta for allowing him to freely use the

facilities of the Department of Physics, I.I.T., Delhi. It is a great pleasure to acknowledge the cooperation the author received from Prof. J.C. Palathingal. The author would like to express his sincere thankfulness to Prof. M.M. Ghani, Vice-Chancellor, University of Calicut, for granting him study leave for one year. Finally, the help and encouragement from the author's friends and colleagues is gratefully acknowledged.

I.I.T., Delhi, K.N.

July, 1974

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