

Proceedings of the Indian National Science Academy

Vol. 46, Part A, No. 4

July 1980

CONTENTS

Page

Anniversary Address — 1980

Health and Family Planning—Issues in the Eighties
Dr V. Ramalingaswami, F.N.A. 307

I. PHYSICS

BIOPHYSICS

On the Formation of the Nucleosomes *In Vitro* : An Electron Microscopic
Study **M. Sinha, A. N. Ghosh and A. Sen** 314

CHEMICAL PHYSICS

Pair Potential of Liquid Neon from Structure Factor Data
D. Sen and R. V. Gopala Rao 322

FLUID DYNAMICS

Free Convection Laminar Flow of an Incompressible Viscoelastic Fluid
A. K. Johri and J. S. Sharma 326

PARTICLE PHYSICS

Upsilon Resonance and Broken $Su(3)$ in New Quark Sector
**Mubarak Ahmad, Abdul Samad,
N. A. Shah and G. Q. Sofi** 334

PLASMA PHYSICS

Plasma Wave and Second Harmonic Generation by A Gaussian EM Beam
in Extraordinary/Ordinary Mode **M. S. Sodha, K. P. Maheshwari,
R. P. Sharma and S. C. Kaushik** 343

RADIATION DOSIMETRY

Fast Neutron Dose to Body via Trace Elements **K. K. Manocha
and R. K. Mohindra** 356

SOLID STATE PHYSICS

Electrical Conductivity Measurements of Evaporated Selenium Films in
Vacuum **Arun K. Sharma and B. Singh** 362

(Continued on 3rd cover)

II. CHEMISTRY

ANALYTICAL CHEMISTRY

Spectrophotometric Determination of Cadmium(II) and Mercury(II) with Water Soluble Pyridinol Azo Dyes

**O. S. Chauhan, Y. S. Varma, Ishwar Singh,
B. S. Garg and R. P. Singh**

369

INORGANIC CHEMISTRY

Phosphorus Chloride-Antimony(V) Chloride-Alkyl Chloride Complexes

**Sneh Lata, M. S. Saini,
S. N. Dubey and D. M. Puri**

374

Mixed Ligand Complexes of Bis(Salicylaldehydato) Copper (II) with Thiourea and Substituted Thioureas

**O. P. Arora,
D. S. Sankhla and Sudhindra N. Misra**

378

ORGANIC CHEMISTRY

Constitutions of Laxanthones-II : Synthetic Studies

**D. K. Bhardwaj,
M. S. Bisht and R. K. Jain**

381

SOIL CHEMISTRY

Studies on the Viscometric Behaviour of Natural, Synthetic and Microbial Humic Acids

M. Adhikari, B. Mandal and P. Sen

387

Specific Adsorption of Copper and Zinc in Different Soils

**R. C. Tiwari
and B. Mohan Kumar**

393

III. GEOLOGY

GEOCHEMISTRY

Fe⁺², Fe⁺³, Mn and V Contents in Carbonate Rocks of the Kajrahat Formation

R. P. Sharma

399

PETROLOGY

Biotites from the Older Metamorphic Tonalite-Gneiss and the Singhbhum Granite, Eastern India

**S. L. Ray
S. Ghosh and A. K. Saha, F. N. A.**

410