

Contents

Coherence in Biology H. Fröhlich.....	1
Coherent Excitations and Raman Effect F. Drissler and L. Santo (With 4 Figures).....	6
The Non-thermal Effect of Millimeter Wave Radiation on the Puffing of Giant Chromosomes F. Kremer, C. Koschnitzke, L. Santo, P. Quick, and A. Poglitsch (With 4 Figures).....	10
Nonthermal Resonant Effects of 42 GHz Microwaves on the Growth of Yeast Cultures W. Grundler, F. Keilmann, V. Putterlik, L. Santo, D. Strube, and I. Zimmermann (With 15 Figures).....	21
On the Microwave Response of the Drosophila Melanogaster G. Nimtz (With 5 Figures).....	38
Effects of Low-level Millimeter Waves on Cellular and Subcellular Systems S.M. Motzkin, L. Benes, N. Block, B. Israel, N. May, J. Kuriyel, L. Birenbaum, S. Rosenthal, and Q. Han (With 12 Figures).....	47
Millimeter-wave and Far-infrared Spectroscopy on Biological Macromolecules L. Genzel, F. Kremer, A. Poglitsch, and G. Bechtold (With 10 Figures).....	58
Excitation of Proteins by Electric Fields J.B. Hasted, S.K. Husain, A.Y. Ko, D. Rosen, E. Nicol, and J.R. Birch (With 8 Figures).....	71
Isotope Effects and Collective Excitations M.U. Palma (With 3 Figures).....	84
Long-range Energy Continua in the Living Cell: Protochemical Considerations G.R. Welch and M.N. Berry.....	95
Indications of Optical Coherence in Biological Systems and Its Possible Significance K.H. Li, F.A. Popp, W. Nagl, and H. Klima (With 1 Figure)	117

Self-focusing and Ponderomotive Forces of Coherent Electric Waves: A Mechanism for Cytoskeleton Formation and Dynamics E. Del Giudice, S. Doglia, and M. Milani	123
Specific Effects in Externally Driven Self-sustained Oscillating Biophysical Model Systems F. Kaiser (With 6 Figures).....	128
Forces on Suspended Particles in the Electromagnetic Field F.A. Sauer.....	134
Coherent Excitations in Blood S. Rowlands (With 6 Figures).....	145
Intracellular Water, Metabolism, and Cell Architecture: Part 2 J.S. Clegg (With 3 Figures).....	162
Coherent Properties of the Membranous Systems of Electron Transport Phosphorylation D.B. Kell and G.D. Hitchens (With 5 Figures).....	178
Natural Oscillating Fields of Cells H.A. Pohl (With 4 Figures).....	199
The Interpretation and Use of the Rotation of Biological Cells U. Zimmermann and W.M. Arnold (With 4 Figures).....	211
Symposium on Coherent Excitations in Biological Systems: Some Impressions and Conclusions H.P. Schwan.....	222