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Havas Pick #21

THE PHYSICAL BASIS OF ELECTROMAGNETIC INTERACTIONS WITH BIOLOGICAL SYSTEMS

PROCEEDINGS OF A WORKSHOP HELD AT THE
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EDITORS

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Pick of the Week #21: Physical Basis of Electromagnetic Interactions with Biological Systems.



February 22, 2011. A workshop sponsored by the Office of Naval Research, the Naval Medical Research and Development Command, and the Bureau of Radiological Health, Food and Drug Administration was held at the University of Maryland in 1977. The Proceedings of that workshop are available here as a pdf document.

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Foreward

This volume contains the proceedings of a Workshop on the Physical Basis of Electromagnetic Interactions with Biological Systems held at the University of Maryland on June 15-17, 1977. The workshop was sponsored by the Office of Naval Research, the Naval Medical Research and Development Command and the Bureau of Radiological Health, Food and Drug Administration.

The wide application of industrial, commercial and military devices and systems which radiate frequencies in the radiofrequency and microwave portion of the electromagnetic spectrum plus numerous only partially understood indications of microwave effects upon living organisms have raised important questions of the physical basis of the interactions of electromagnetic fields with biological systems. These questions must be answered if the development of regulatory standards and of methods and techniques for controlling radiofrequency and microwave exposure is to be achieved. The same questions must be answered in connection with present and proposed therapeutic applications of these waves. The rapid increase in the use of these frequencies makes these questions matters of imperative concern, particularly in view of the possibilities of cumulative or delayed effects of exposure.

The study of electromagnetic interactions with biological systems brings together diverse specialties in the fields of physics, engineering, biology and chemistry in a highly interdependent way. Progress towards practical solutions of the problems involved will depend upon the development of experimental techniques and instruments and of a sufficient general theoretical base to inform and react with the experimental investigations. The purpose of the Workshop on the Physical Basis of Electromagnetic Interactions with Biological Systems was to bring together the leading investigators in the field to present the results of recent research, to determine the present status of the field and the priority of significant problem areas, and to critically evaluate conflicting theoretical interpretations and experimental techniques. These proceedings contain the formal papers prepared by the invited speakers plus a number of contributed papers given by other participants in the Workshop. Transcriptions were made of the discussion periods following each paper and edited versions of these are included; the editors bear the responsibility for any misquotation.

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