

REVIEW AND STATE OF THE ART  
BIOLOGICAL EFFECTS AND HAZARDS OF MICROWAVE RADIATION

Chairman and Organizer-

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On RF Radiation Hazards

Microwaves does interact with a variety of materials and systems including Biological. The question arises as to the mode of interaction and whether it constitutes a hazard. The IEEE and the Department of the Navy are co-sponsors of an American National Standards Institute Committee-C-95 on RF Radiation Hazards. The American National Standards Institute (ANSI) is the national clearinghouse and coordinating body for voluntary standards in the United States. C-95 is an ANSI committee composed of representatives of scientific and technical organizations, industry and trade groups, government agencies and public interest groups, and their task is to develop standards relating to the committee's field of interest. The actual work of the committee is accomplished by sub-committees, membership in which is a function of expertise and the ability to contribute to the work of the committee. In addition to its co-sponsorship of C-95 the IEEE has five (5) representatives, voting as a group, one of which represents MTT-S. This session is essentially a report to MTT-S on the technical activities of C-95 as well as a review and state of the art in the area of Biological Effects and Hazards of Microwave Radiation. It will also provide an opportunity for interaction between members of C-95 and the microwave community.

The development of standards depends upon research activities to provide the necessary data and insight. The problems here not only involve microwave techniques, but covers a wide variety of disciplines ranging from engineering and physics to medicine, biology, psychology, statistics, chemistry, etc. In addition to a discussion of problems associated with developing standards, the talks will cover the problems of microwave technology interacting with these other disciplines and will deal with experimental techniques and the design of multidisciplinary experiments as well as practical considerations. Although the emphasis of C-95 is on hazards there are a variety of activities in the biological effects area that point to the use of some of these effects to benefit mankind.

I. A. Biological Effects and Experimental Techniques

A. W. Guy  
University of Washington  
Seattle, Washington  
Chairman of ANSI C-95 Sub IV  
"Safety Levels and/or Tolerances  
with respect to Personnel"

III. Medical Surveillance

P. E. Tyler (M. D.)  
Naval Medical R & D Command  
Bethesda, Maryland  
Chairman ANSI C-95 Sub VII  
"Medical Surveillance"

I. B. Behavioral and CNS Effects

D. R. Justesen  
Veterans Administration Hospital  
Kansas City, Mo.  
Member of ANSI C-95 Sub IV

IV. Effects Other Than Biological

J. Thiel  
Texas Department of Health Resources  
Austin, Texas  
Chairman ANSI C-95 Sub VI  
"Safety Levels and/or Tolerances with respect  
to Flammable Liquids, Vapors and Gases"

II. Measurements and Dosimetry

R. Baird  
National Bureau of Standards  
Boulder, Colorado  
Chairman of ANSI C-95 Sub I  
"Test Techniques, Procedure and  
Instrumentation"

V. Panel - Speakers and Chairman

Questions and Comments