HISTORY AND EVOLUTION OF THE JOURNAL *RADIO SCIENCE* AND ITS PREDECESSORS

Robert D Hunsucker

Geophysical Institute, University of Alaska, USA

INTRODUCTION

The international Journal *Radio Science* is published in the USA by the American Geophysical Union (AGU) and co-sponsored by the International Union of Radio Science (URSI) *Radio Science* welcomes original scientific/engineering contributions on all aspects of electromagnetic phenomena related to physical problems - including the propagation through and interaction of EM waves with geophysical media, biological media, plasmas and man-made structures. Telecommunications, radio metrology, remote sensing of the earth and ionosphere and radio astronomy are also included.

HISTORY

The direct lineal predecessor of *Radio Science* was the Journal of Research of the US National Bureau of Standards (NBS), Part D, Radio Propagation. The NBS Journal of Research consisted of Part 1 - Physics and Chemistry, Part B - Mathematics, Part C - Instrumentation, and Part D, Radio Propagation. Part D was created by NBS as a result of an initiative led by James Wait, Kenneth Norton and other staff members of the NBS Central Radio Propagation Laboratory (CRPL). Dr. Allen Astin, Director of NBS gave the go-ahead in 1958 for Part D. at NBS headquarters in Washington, D.C. It was felt that in the post-World War II US. scientific publication scene, a new journal was needed, in addition to the Proceedings of the Institute of Radio Engineers (IRE). The Editorial Advisory Board for Part D.-Radio Propagation included scientists from CRPL and several other scientific organizations.

The first issue of the Journal of Research, NBS, Section D - Radio Propagation appeared in July 1959 and contained several significant papers by well-known international scientists such as H. Bremmer, Kenneth Norton, R.M. Gallet, R.A. Helliwell, B.R.Bean and Franklin Roach . Figures 1, 2 and 3 show the Title Page, Table of Contents and a short Editorial by the founder and first Editor, J.R. Wait of Volume 63D, No. 1.

Early issues of the bimonthly journal , Part D.-*Radio Propagation,* contained many fundamental papers on both experimental and theoretical results in electromagnetics and radio propagation. Some readers considered the journal a bit esoteric because some of the papers were highly mathematical in nature, but the editorial policy was vindicated later by many citations of these papers by other authors. Approximately 50 % of the papers in *Radio Propagation* were from authors outside NBS and the US.

In 1966 the journal was renamed *Radio Science,* Vol. 1, was sponsored by the US National Committee of URSI and L.A. Manning of Stanford University was appointed as co-Editor, along with J.R. Wait. This arrangement lasted for several years, but subsequent changes in research funding emphases and management policies affected the editorial policy and the contents of the journal. These changes were described by various editorials in those issues.

Another change in the character and content of *Radio Science* occurred in , when the American Geophysical Union (AGU) became the publisher. This was a rather complicated transition but was accomplished through the efforts of the following individuals who subsequently became editors of *Radio Science*: C.Gordon Little, Douglass D. Crombie, Sidney A. Bowhill and Lawrence Manning. Later editors were Thomas B.A. Senior, Akira Ishimaru, Alan Waterman and David C. Chang. The current editor is Robert D. Hunsucker, assisted by the editorial team of Michael Shirreffs and Molly Gower at AGU. James R. Wait, the founder and first author of *Radio Science* served as editor for nine years and as an associate editor for twelve years. The review of manuscripts submitted to *Radio Science* was greatly abetted by very active associate editors, including those from abroad representing URSI.

AGU introduced a new typographic look to its journal articles in 1994. The changes included the use of larger type for the abstracts and captions and boldface for the titles and section headings in order to enhance the readability of articles and to simplify the process of creating camera-ready copy for the many authors who choose this option

The journal is now published bimonthly by the AGU and co-sponsored by URSI, as stated on the front cover. AGU members may subscribe to *Radio Science* in printed or microfiche editions for their personal use at an annual subscription rate of $ 52 US. Student members may subscribe at reduced rates. Subscriptions for libraries, reading rooms, and other multiple use institutions are also available at special rates (contact AGU at 2000 Florida Ave., N.W., Washington, D.C 20009 USA for details). Individual non-AGU members interested in subscribing to *Radio Science* for their personal use should contact AGU for

information. Single issue prices are available on request.

Since the goal of AGU is that each journal should be self-supporting, Publication charges are assessed. For articles typeset by AGU the charge is $ 115 per printed page. AGU will typeset only those articles for which the AGU-typeset rate is paid. If the author provides final typewritten or typeset copy, prepared according to AGU specifications, , the publication charge is $ 54 per printed page. Authors honoring publications charges receive 100 free reprints.

Due to the rapid growth in the number of pages published in AGU journals, a new page charge policy has been established to reduce the average length of papers. Authors submitting papers to *Radio Science* will be charged an additional of $ 54 (authored prepared copy) or $ 100 (AGU typeset copy) for each page after page 10. The surcharge will be billed in addition to current page charges and regardless of whether reprints are ordered.

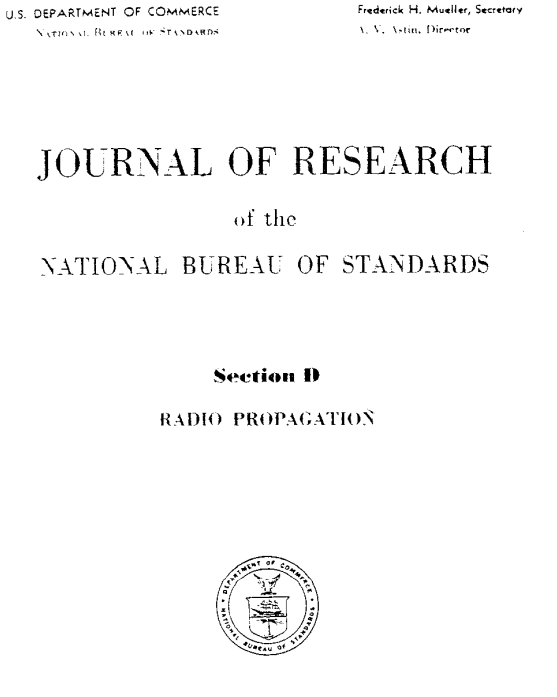
Data and other material supplementing journal articles or data described in a printed summary may be made available through videotape, electronic mechanisms, or microfiche. Examples include lengthy mathematical derivations, data tables, computer printouts, appendices or videotaped animations. Such material will be subjected to the same peer review procedures used for printed articles. Information on retrieval and nominal handling charges will appear with the printed article or summary. For further information, contact the Production Coordinator: Alice Dole, FAX (202) 462-2253.

Submitted papers must conform to the *Radio Science* style guidelines, as listed in the Information for Contributors to *Radio Science* in the back of the September-October 1993 issue, also available from AGU.

As *Radio Science* enters its thirty-sixth year of publication, it is beset by problems which confront most other scientific and technical journals in the 1990's: the exponential increase of information to be published, decreasing research funding, decreased budgets for technical libraries, pressures on authors to publish, increased publishing costs and vanishing space for storing the printed word. Along with most other journal publishers, AGU is presently developing electronic publishing formats and methods of dissemination. *Radio Science* and other AGU journals are also implementing a "Worldwide Web Homepage" on Internet which will contain a brief description of the purpose of the journal, the names and addresses of the editorial team, the table of contents of the current issue, instructions for authors, and, possibly, the status of recently submitted manuscripts. The front page, Table of Contents and a short editorial from a recent issue of *Radio Science* are shown in Figures 4, 5 and 6. It is interesting to note that in the forty papers published in the January-February and March-April 1995 issues of *Radio Science*, twenty-two papers were by U.S. authors, and the rest from non-U.S. authors (Australia, Belgium, Canada, China, France, India, Italy, Japan, Lebanon, Russia and Sweden) - attesting to the international character of our contributors !

The ultimate goal of the current editorial staff of *Radio Science* is to continue to pursue the ideals and high standards set by the past editors in soliciting and publishing the very best and most important papers in the field of electromagnetic phenomena, both theoretical and applied. We continue the pursuit of excellence in our journal and strive for timeliness of publication of these papers.

In pursuing these goals, authors and editors would do well to ask - to paraphrase T.S. Eliot; "How from data, do we get information, how from information, do we get knowledge; and how from knowledge, do we get wisdom ?


U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

Frederick H. Mueller, Secretary
A. V. Astin, Director

JOURNAL OF RESEARCH

of the

NATIONAL BUREAU OF STANDARDS

Section D

RADIO PROPAGATION

Volume 63D—July to December 1959

Papers 63D1-1 to 63D3-30

Figure 1. Cover of the first issue of *Radio Propagation.* July 1959

CONTENTS OF VOLUME 63D

Volume 63D—No. 1—July–August

Volume 63D—No. 2—September–October

Figure 2. Table of Contents of Vol 63D, July-August and September-October 1959

Preface

Section D of the Journal of Research of the National Bureau of Standards will serve primarily as a medium for the reporting of research activities of the NBS Central Radio Propagation Laboratory relative to its mission of obtaining, analyzing, and disseminating information on the propagation of radio waves. In addition, the Bureau will solicit from time to time important papers in this field from research workers in other laboratories in order to provide a broad coverage of the advances in radio propagation science. Our plan to provide such coverage has been developed in consultation with the officers of the Institute of Radio Engineers and experts from outside NBS who have agreed to serve on an Editorial Advisory Board.

The Bureau's monthly publication, "Basic Radio Propagation Predictions," will continue to be issued separately.

JAMES R. WAIT, *Editor*,
Section D, Radio Propagation.

Figure 3. Preface for Vol. 63D by Dr. J.R. Wait

Radio Science, Volume 30, Number 2, Page 305, March–April 1995

Editorial

As the incoming Editor of *Radio Science* for 1995 through 1998, I would like to greet our readers and wish you the best in your endeavors for this new year. The publication of a scientific journal requires the best efforts of the entire Editorial team, including the authors, the reviewers, the Associate Editors, the Editorial Assistants at AGU, the printer, and the Editor. We are fortunate to have a first rate team with the Associate Editors, listed on the inside cover, and Michael Shirreffs and Molly Gower, in the Journals Division at AGU.

Radio Science embraces a very wide range of electric wave research, as listed on the inside front cover, and has a tradition of excellence in the papers accepted for publication. Our first goal is to maintain this tradition of breadth and excellence. Another goal is to increase our circulation in spite of the present trend of decreasing research budgets! I would also like to encourage communication between authors, reviewers, and the editorial staff. Another goal in this first year is to establish a "home page" on World Wide Web (WWW) on Internet which will list pertinent information for authors, the addresses of the editorial staff, and information on the status of papers submitted to *Radio Science*. For the present, authors and readers can contact the Editor at ffrdh@acad3.alaska.edu and the above-mentioned AGU Editorial Assistants at mshirreffs@kosmos.agu.org and mgower@kosmos.agu.org on Internet.

Robert Hunsucker
Editor

Figure 4. Preface to Radio Science, Vol.30, No.2 by Dr. R.D. Hunsucker.

RADIO SCIENCE

Volume 30 Number 2 March-April 1995

Published by
American Geophysical Union
Cosponsored by
International Union of Radio Science

Figure 5. Cover page of *Radio Science*, Vol. 30, No. 2, March-April 1995

Radio Science welcomes original scientific contributions on all aspects of electromagnetic phenomena related to physical problems. The coverage embraces the propagation through and interaction of electromagnetic waves with geophysical media, biological media, plasmas, and man-made structures, and includes, but is not limited to, the application of electromagnetic techniques to remote sensing of the Earth and its environment, telecommunications, signals and systems, the ionosphere, and radio astronomy. All frequencies (including optical) are of interest.

Submitted papers must conform to the *Radio Science* style guidelines and should be addressed to:
EDITOR: Robert Hunsucker
EDITOR'S ASSISTANT: Michael B. Shirreffs
c o AGU
2000 Florida Ave., N.W.
Washington, DC 20009
Telephone: (202) 462-6900 X221, email: mshirreffs@kosmos.agu.org
Accepted manuscripts or AGU publication policy, contact AGU Publications Dept. at (202)939-3200, Fax 202-462-2253
Alice Dole (202)462-6900 X274, email: adole@kosmos.agu.org

Publication Charge. For articles typeset by AGU, the charge is $115 per printed page. AGU will typeset only those articles for which the AGU-typeset rate is paid. If the author provides final typewritten or typeset copy, prepared according to AGU specifications, the publication charge is $54 per printed page. Authors honoring publication charges receive 100 reprints.

Due to the rapid growth in the number of pages published in AGU journals, a new page charge policy has been established to reduce the average length of papers. Authors submitting papers to *Radio Science* will be charged an additional fee of $54 (author-prepared copy) or $100 (AGU typeset copy) for each page after page 10. The surcharge will be billed in addition to current page charges and regardless of whether reprints are ordered.

Supplementary Material. Data and other material supplementing journal articles or data described in a printed summary may be made available through videotape, electronic mechanisms, or microfiche. Examples include lengthy mathematical derivations, data tables, computer printouts, appendices, or videotaped animations. Such material will be subjected to the same peer review procedures used for printed articles. Information on retrieval and nominal handling charges will appear with the printed article or summary. For further information, contact the Production Coordinator: Alice Dole, Fax (202) 462-2253.

Subscriptions. AGU members may subscribe to *Radio Science* in printed or microfiche editions for their personal use at an annual rate of $52 (U.S. members). Student members may subscribe at reduced rates. Subscriptions for libraries, reading rooms, and other multiple-use institutions are available at special rates; contact AGU for details. Individual nonmembers interested in subscribing to *Radio Science* for their personal use should contact AGU for information. Single-issue prices are available on request. Subscriptions and orders for back issues should be sent to: American Geophysical Union, 2000 Florida Avenue, N.W., Washington, D. C. 20009 USA. Fax 202-328-0566.

Address Changes. Send changes to AGU at address above; allow five weeks advance notice. Claims for missing issues will not be honored for such reasons as "missing from files" or because of insufficient notice of address change or loss in mail unless claimed within 90 days for USA and 150 days for other countries from last day of month of publication.

Radio Science (ISSN 0048-6604) is published bimonthly for $52 per year, by the American Geophysical Union, 2000 Florida Avenue, N.W., Washington, D. C. 20009 USA. Second-class postage paid at Washington, D. C., and at additional mailing offices. POSTMASTER: Send address changes to *Radio Science*, American Geophysical Union, 2000 Florida Avenue, N.W., Washington, D. C. 20009 USA.

RADSCAD 30(2)565–[illegible], 1995.
ISSN 0048-6604

Figure 6. Masthead of *Radio Science*, Vol. 30, No. 2, March-April 1995