MRS BULLETIN

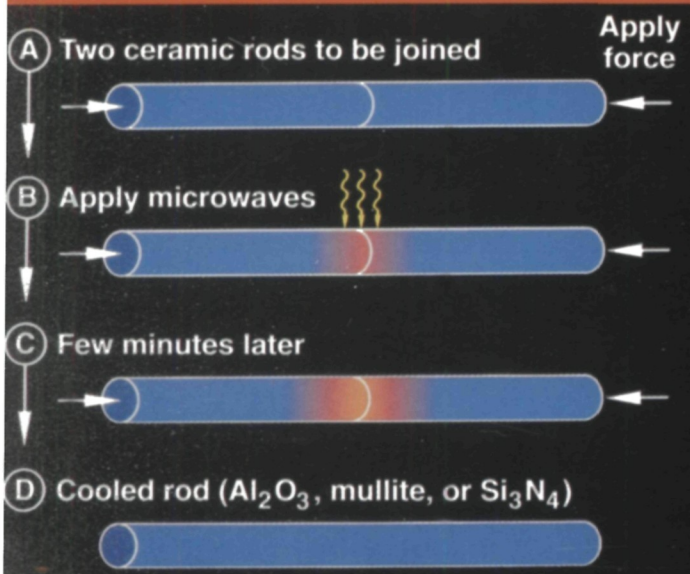
Serving the International Materials Research Community

A Publication of the Materials Research Society

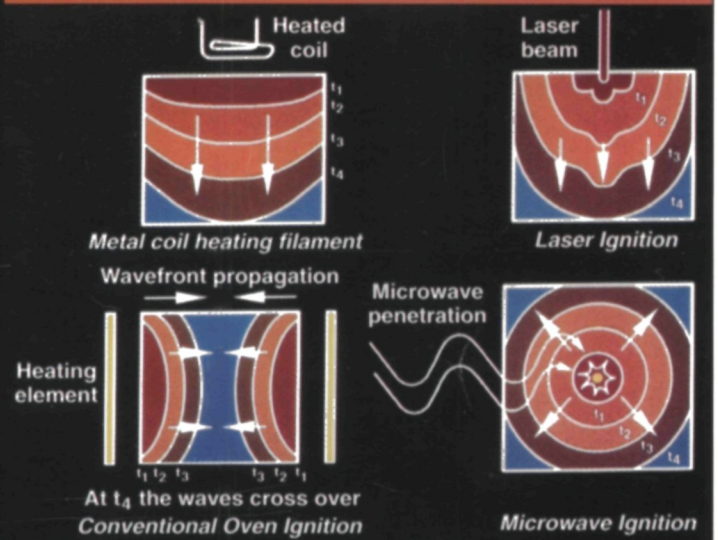
November 1993, Volume XVIII, No. 11

Microwave Processing of Materials

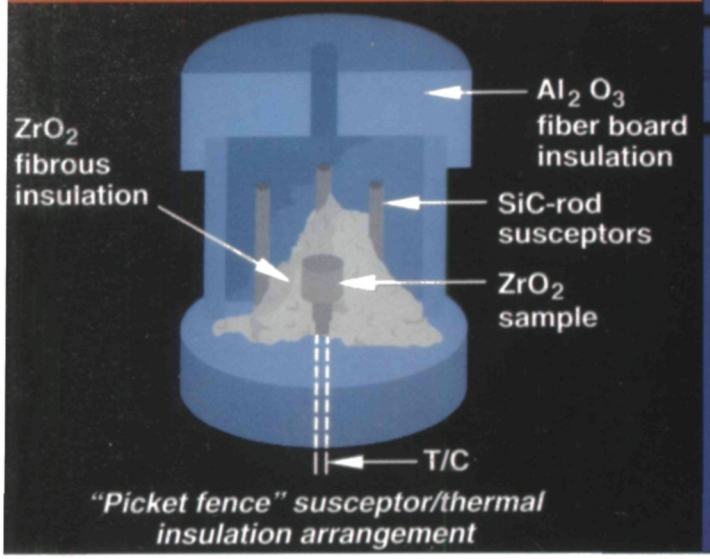
Microwave Joining



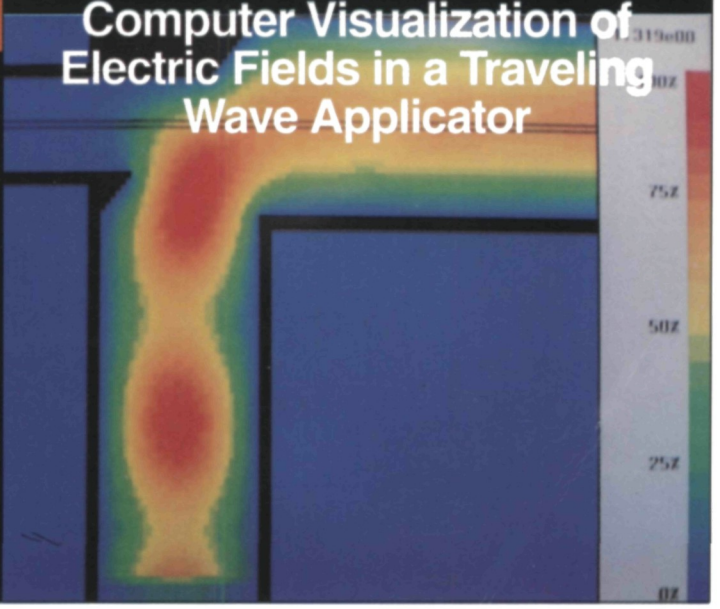
Methods to Ignite Combustible Mixtures



Microwave Sintering



Computer Visualization of Electric Fields in a Traveling Wave Applicator



https://doi.org/10.1017/S0883769400038446 Published online by Cambridge University Press

HAVE YOU HEARD THE RUMOUR??

…that High Voltage Engineering is currently developing a 3.5MV/TV -high current- tandem accelerator? Well… **they are not,** because HVEE has already finished the 3.5MV Tandetron and it performs extremely well!

In addition to higher terminal voltages, the HVEE Tandetron accelerators are now available with a novel, patented 90° dual ion source -high current- injector system and full computer control for unattended start-up and operation.

The new HVEE Tandetron accelerator systems can be installed in a single room laboratory without the need of a HV protection cage or additional X-ray shielding.

Circle no. 1 reader service card for product literature.

Please visit Booth No. 904 at the Equipment Exhibit/Table Top Display in Boston, Nov. 30–Dec. 2, 1993.

DIVISIONS
GENERAL IONEX
DOWLISH DEVELOPMENTS

More Energy for Research

HIGH VOLTAGE ENGINEERING EUROPA B.V.

P.O. Box 99, 3800 AB Amersfoort, The Netherlands. Phone: (+31) 33-619741. Fax: (+31) 33-615291

https://doi.org/10.1017/S0883769400038446 Published online by Cambridge University Press

https://doi.org/10.1017/S0883769400038446 Published online by Cambridge University Press

Now At Your Fingertip

All 4,619 High Vacuum Components Detailed In Our New Catalog

NOW
MDC Products in AutoCAD Format

All you need is your index finger. FAX or Phone an inquiry in the morning and we'll probably get back to you the same day. Orders for stock items in by 9:00 AM can be shipped by 4:00 PM.

Products are detailed in our 360 page catalog with prices. Ask for a copy. In a hurry? We'll FAX pages of interest to you - right now.

FAX us at 510-887-0626 or Phone Toll Free 800-443-8817 outside CA or 510-887-6100 in CA

23842 Cabot Blvd.
Hayward, CA 94545

Please visit Booth No. 942 at the MRS Equipment Exhibit/Table Top Display in Boston, Nov. 30–Dec. 2, 1993.

MDC
VACUUM PRODUCTS CORPORATION

https://doi.org/10.1017/S0883769400038446 Published online by Cambridge University Press

Circle No. 5 on Reader Service Card.

MRS BULLETIN

November 1993

A Publication of the Materials Research Society
Volume XVIII, Number 11 ISSN: 0883-7694 CODEN: MRSBEA

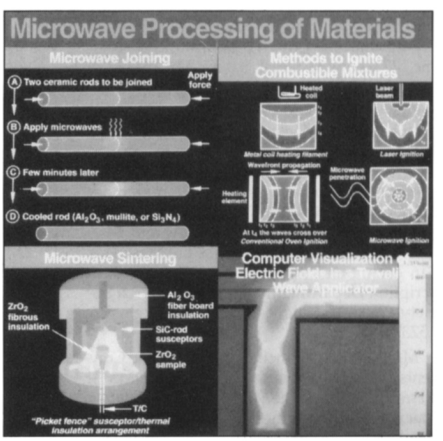
MICROWAVE PROCESSING OF MATERIALS

INTERNATIONAL UNION OF MATERIALS RESEARCH SOCIETIES

RESEARCH REPORT

MRS NEWS

DEPARTMENTS



ON THE COVER: Four aspects of microwave processing are represented: (1) joining of ceramic rods (see the article by R. Silberglitt et al., p. 47); (2) ignition of combustible mixtures to synthesize materials (see the article by D.E. Clark et al., p. 41); (3) microwave sintering of ZrO_2 using SiC susceptor rods to initiate (hybrid) heating (see M. Janney, C. Calhoun, and H. Kimrey, *J. Am. Ceram. Soc.* **75**, 2, 1992, p. 341); and (4) computer-simulated electric field distribution pattern in a traveling wave applicator (see the article by M. Iskander, p. 30). Photos (1-3) courtesy of United Technologies Research Center, Genigraphics Group; photo (4) courtesy of M. Iskander.

https://doi.org/10.1017/S0883769400038446 Published online by Cambridge University Press

MRS BULLETIN

Materials Research Society • 9800 McKnight Road • Pittsburgh, PA 15237

About the Materials Research Society

The Materials Research Society (MRS), a nonprofit scientific association founded in 1973, promotes interdisciplinary goal-oriented basic research on materials of technological importance. Membership in the Society includes nearly 11,000 scientists, engineers, and research managers from industrial, government, and university research laboratories in the United States and nearly 50 countries.

The Society's interdisciplinary approach differs from that of single-discipline professional societies because it promotes information exchange across the many technical fields touching materials development. MRS sponsors two major international annual meetings encompassing approximately 50 topical symposia, and also sponsors numerous single-topic scientific meetings. The Society recognizes professional and technical excellence, conducts short courses, and fosters technical interaction in local geographic regions through Sections and University Chapters.

MRS participates in the international arena of materials research through the International Union of Materials Research Societies (IUMRS). MRS is an affiliate of the American Institute of Physics.

MRS publishes symposium proceedings, *MRS Bulletin*, *Journal of Materials Research*, and other publications related to current research activities.

MRS Bulletin (ISSN: 0883-7694) is published 12 times a year by the Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237. Application to mail at second class rates has been approved at Pittsburgh, PA and at additional mailing offices. POSTMASTER: Send address changes to *MRS Bulletin* in care of the Materials Research Society, at the address listed; phone (412) 367-3003; Fax (412) 367-4373. Printed in the U.S.A.

Membership in MRS is $70 annually for regular members, $25 for students and retired members. Dues include an allocation of $25 ($15 for students and retirees) to a subscription to *MRS Bulletin*. Individual member subscriptions are for personal use only. Non-member subscription rates are $106 for one calendar year (12 issues) within the U.S.A. and $156 elsewhere. Single copies may be purchased for $16 each. Send subscription orders to Subscription Department, Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237.

MRS Bulletin is included in Current Contents/*Physical, Chemical & Earth Sciences*™, *Research Alert*, and the *Materials Science Citation Index*™. Back volumes of *MRS Bulletin* are available in 16mm microfilm, 35mm microfilm, or 105mm microfiche through University Microfilms Inc., 300 North Zeeb Road, Ann Arbor, Michigan 48106.

https://doi.org/10.1017/S0883769400038446 Published online by Cambridge University Press