



St. Louis, Missouri

IEEE Cat. No. 85CH2163-4
ISSN 0149-645X

1985
IEEE – MTT-S
International Microwave
Symposium
Digest

4-6 June, 1985
Sheraton Hotel
Cervantes Convention Center
St. Louis, Missouri



Publications Chairman
Louis N. Medgyesi-Mitschang



Responsibility for the contents of the papers published in this Digest rests upon the authors and not upon IEEE or any of its members.

Additional copies of this Digest are available from:

The Institute of Electrical and Electronic Engineers, Inc.
Publications Order Department
445 Hoes Lane
Piscataway, NJ 08854

IEEE Catalog No. 85CH2163-4

ISSN 0149-645X

Library of Congress Catalog No. 77-645125

IEEE MTT-S International Microwave Symposium

IEEE MTT-S International Microwave Symposium Digest 1977-
New York, Institute of Electrical and Electronics Engineers
v. III. 28 cm. annual.

Continues: IEEE MTT-S International Microwave Symposium Digest of technical
papers, ISSN 0149-6298.

Key title: IEEE MTT-S International Microwave Symposium Digest, ISSN 0149-645X

1. Microwaves—Congresses. 2. Microwave devices—Congresses. I. Institute of
Electrical and Electronics Engineers. II. IEEE MTT-S International Microwave Symposium
Digest.

TK7876. I184	621.381'3	77-645125
Library of Congress	78	MARC-S

Permission to Reprint or Copy

*Abstracting is permitted with credit to the sources. Libraries are permitted to photocopy
beyond the limits of U.S. copyright law for private use of patrons those articles in this volume
that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is
paid through the Copyright Clearance Center; 21 Congress St., Salem, MA 01970. Instructors are
permitted to photocopy isolated articles for noncommercial classroom use without fee. For other
copying, reprint, or republication permission, write to Director, Publishing Services: IEEE; 345
East 47 Street, New York, NY 10017, USA. All rights reserved.*

Copyright © 1985 by The Institute of Electrical and Electronics Engineers, Inc.

ON THE COVER: The St. Louis Arch and city skyline is dramatically captured through a fish-eye lens.

COVER DESIGN: Bruce Bierman

TECHNICAL LAYOUT: Jackie Plummer

Graphic facilities courtesy of McDonnell Douglas Corporation.