Microgravity Science and Applications Bibliography

1991 Revision

NASA Office of Space Science and Applications
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FORWARD

This edition of the Microgravity Science and Applications (MSA) Bibliography is a comprehensive compilation of government reports, contractor reports, conference and symposia proceedings, and journal articles dealing with flight experiments utilizing a low-gravity environment to elucidate and control various processes, and with ground-based activities that provide supporting research. It encompasses literature published but not cited in the 1990 Revision, literature published during 1991, and literature either submitted for publication or in press.

Some papers are on file and copies can be made available to scientists in the field on request to the bibliographer.

Any omissions that might have occurred are sincerely regretted. Investigators are encouraged to submit to the bibliographer, information on any work that was inadvertently omitted, or any new work, for inclusion in next year's edition of the Bibliography. All correspondence concerning corrections, additions, or deletions to the Microgravity Science and Applications Bibliography should be directed to: Ms. Elizabeth Pentecost, USRA, Suite 330, 409 Third Street, SW, Washington, DC 20024.

The Microgravity Science and Applications Division wishes to thank the Universities Space Research Association (USRA) and in particular Ms. Elizabeth Pentecost, for her efforts in the compilation and publication of this report.
A. U.S. PROGRAM
Electronic Materials


Abdelhakiem, W., J.D. Patterson, and S.L. Lehoczky, "A Comparison Between Electron Mobility in N-Type Hg_{1-x}Cd_xTe and Hg_{1-x}Zn_xTe" Materials Letters, in press (1991).


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Sha, Y. G. and Wiedemeier, H., "The Direct Determination of the Vacancy Concentration and P-T Phase Diagram of Hg_{0.8}Zn_{0.2}Te by Dynamic Mass-Loss Measurements," J. Elect. Mat. 19, 1303 (1990).


Metals, Alloys, and Composites


Fluids, Interfaces, and Transport


Glasses and Ceramics


Combustion Science


Experimental Technology, Facilities
and Instrumentation


Clark, I.O., "MOCVD Requirements for Abrupt Junction Growth," University of Virginia; Department of Materials Science; Ph.D.; January, 1990.


Dhadwal, H.S. and Ansari, R.R., "Multiple Fiber Optic Probe for Several Sensing Applications", in Proceedings of the SPIE's International Symposium on Opto-Electronics/Fibers '91, September, 1991, Boston, MA.

Fox, B.A., "Analysis of Lattice-Matched GaAsP/GaAs Epitaxial Interfaces Grown by Metalorganic Chemical Vapor Deposition," University of Virginia; Department of Materials Science; Ph.D., January, 1990.


Rim, Y.H., Cawley, J.D., Ansari, R.R., Meyer, W.V., "In-Situ Light Scattering Study of Aggregation," accepted for publication as part of the Proceedings for 93rd Annual American Ceramic Society Meeting, Forming Science and Technology for Ceramics.


General Studies and Surveys

B. EUROPEAN PROGRAM
Electronic Materials


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Biotechnology


General Studies and Surveys


C. SOVIET PROGRAM


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Biotechnology

D. JAPANESE PROGRAM


Experimental Technology, Facilities and Instrumentation

E. OTHER FOREIGN PROGRAMS
Fluid Dynamics and Transport Phenomena


# Microgravity Science and Applications Bibliography - 1991 Revision

**Abstract**

This edition of the Microgravity Science and Applications (MSA) Bibliography is a compilation of government reports, contractor reports, conference proceedings, and journal articles dealing with flight experiments utilizing a low-gravity environment to elucidate and control various processes, or with ground-based activities that provide supporting research. It encompasses literature published but not cited in the 1990 Revision and that literature which has been published in the past year.

Subdivisions of the Bibliography include: Electronic Materials; Metals, Alloys, and Composites; Fluids, Interfaces and Transport; Glasses and Ceramics; Biotechnology; Combustion Science; and Experimental Technology, Instrumentation and Facilities. Also included are a limited number of publications from the European, Soviet and Japanese programs.

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- Electronic materials
- Glasses and ceramics
- Protein crystal growth
- Microgravity science and applications

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- Unclassified

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