NRL Bibliography No. 32

Bibliography of Moving-Coil (Dynamic) and Impulse Type Underwater Electroacoustic Transducers

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BIBLIOGRAPHY OF MOVING-COIL (DYNAMIC) AND IMPULSE TYPE UNDERWATER ELECTROACOUSTIC TRANSDUCERS

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ABSTRACT

References obtained from a search of the Underwater Sound Reference Division's library holdings and the issues of *Physics Abstracts* from January 1950 through May 1968 are listed under the headings General Information, Moving-Coil Transducers, Impulse-Type Transducers, and Transducer Materials. Books, reports, and journal articles are included. The list consists of approximately 560 entries.

PROBLEM STATUS

This is an interim report on the problem.

PROBLEM AUTHORIZATION

NRL Problem S02-32

Project SF 11-121-300-8580

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PREFACE

This bibliography, compiled originally for the Naval Ship Systems Command's Mobile Sonar Technology (MOST) Committee on Transducers, is being published for the benefit of designers of moving-coil and impulse-type transducers. To permit unrestricted distribution, classified references and certain notations in other entries have been deleted; these deletions account for the blank spaces to be found in the listings.

"Moving-coil transducer" rather than "dynamic transducer" is specified by "USA Standard Acoustical Terminology, S1.1-1960" as the standard term for a "moving-conductor transducer in which the movable conductor is in the form of a coil." For that reason, "moving-coil" has been used in the title of this report and in the headings within the report, although "dynamic" appears frequently in the literature and in the titles cited in this bibliography.

The listings are separated into four categories: General Information, Moving-Coil Transducers, Impulse-Type Transducers, and Transducer Materials. The General Information and Transducer Materials categories contain references of interest to most designers as well as information on specific types of transducers. Each category is further separated into books, reports, and journal articles. The book listing is alphabetical by author's surname; reports and articles are listed chronologically.

The literature search was restricted to the Underwater Sound Reference Division's library holdings of reports and books, and to the issues of *Physics Abstracts* from January 1950 through May 1968 for other items. In addition to the specific topics of interest, the following general categories were investigated: vibrations, acoustics, electric conduction, currents, electromagnetism, magnetic effects, elasticity, electric discharges, magnetism, magnetic properties of materials, mechanical properties of materials, instruments, and measurements. A complete page-by-page evaluation of the subject index section of *Physics Abstracts* for the period 1963 through May 1968 also was made. Not all items have been examined; publications were included if the title or abstract appeared to be appropriate.

Normal acquisition procedures should be followed to obtain a copy of anything listed here. Copies are not available from the Underwater Sound Reference Division.

The many hours of tedious searching, culling, and cataloging by Mrs. Evelyn Croxton is gratefully acknowledged.

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