

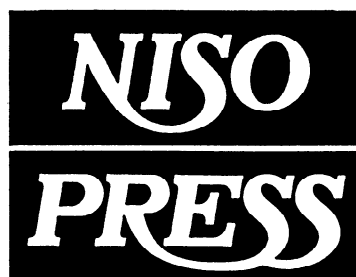
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Scientific and Technical Reports — Elements, Organization, and Design

Abstract: To facilitate information retrieval, the elements, organization, and design of scientific and technical reports are outlined. Guidance in organizing the required and optional elements of the three major sections (front matter, text, and back matter) is provided. The standard establishes guidelines for the uniform presentation of visual and tabular matter, formatting, and pagination. Additional suggestions for presenting numbers, formulas, equations, symbols, abbreviations, and acronyms are included.

An American National Standard
Developed by the
National Information Standards Organization
Approved March 21, 1995 by the
American National Standards Institute



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Foreword

(This Foreword is not a part of the American National Standard for Scientific and Technical Reports — Elements, Organization, and Design, ANSI/NISO Z39.18-1995. It is included for information only.)

This standard presents guidelines about the elements, organization, and design of scientific and technical reports. Its purpose is to foster uniformity in such reports for ease of information retrieval while permitting diversity of purpose, scope, and subject matter. The standard does not provide guidance on other typical technical information products such as journal articles, proposals, technical specifications, or technical and consumer manuals. This publication is a standard rather than a report and, therefore, does not follow in every particular the report format prescribed. Moreover, the language of the standard is couched in the indicative rather than the subjunctive mood ("is," not "shall" or "must") which is typically used in standards.

In the development of this standard, Committee AH examined existing practices and conventions from a wide variety of organizations, institutions, and associations, as reflected in the annotated bibliography (Appendix A). These sources were chosen because they represent a variety of report producers and are available to the report-producing public. Where practices varied, committee members resolved the differences based on their collective experiences. Where appropriate, they have recommended options to accommodate the widely varied needs of report producers. Because of this variety, not all the elements described are mandatory for a report although the placement and sequence of report elements should be consistent. For example, federal agencies use a report documentation page, but many academic and industrial report producers do not. The use and placement of report documentation pages are considered optional by the standard to accommodate local practices, therefore instructions for preparing them are given in Appendix B.

The standard provides explicit guidance about the bibliographic data elements that appear on the covers and title pages (and, if they are used, report documentation pages) of reports if the reports are printed or presented in image form. Compliance with these guidelines ensures thorough, consistent, and uniform bibliographic description, and control of data essential to libraries, abstracting services, and other technical information organizations that acquire, store, and provide access to information resources.

The standard also describes the scope of each section of a report and offers principles for the

effective communication of textual, visual, and tabular material. The establishment of technical writing standards is beyond the scope of this standard; however, the standard does provide an extensive annotated bibliography of books about technical writing and language usage and style (Appendix A).

The standard includes basic requirements for publication formats; the use of figures and tables; and the presentation of numbers and units, formulas and equations, and symbols, abbreviations, and acronyms. It does not, however, offer specific advice about electronic publishing systems that enable users to design and produce reports using a computer, appropriate software, and a laser or laser-quality printer. Because report production and reproduction techniques use rapidly changing software products that are beyond the scope of this standard, they are not specified. Most software packages for page and report production do provide instruction manuals for users, however. The author(s) or other individuals charged with preparing a report should plan to deliver both a paper copy and an electronic version available on diskette, CD-ROM, or network services.

The standard supports the electronic publication of hard (paper) copy while acknowledging that reports are also produced, stored, and retrieved in electronic formats. Paper and electronic documents have different design constraints, however, that are not easily reconciled in a single standard. Insofar as it is possible to do so, this standard establishes a *de facto* document-type definition (DTD), a set of rules for establishing the structure of reports, that may be electronically processed through systems that include document imaging, optical character recognition, compression/decompression, and optical media storage of full text.

Suggestions for improving this standard are welcome. They should be sent to the National Information Standards Organization, P.O. Box 1056, Bethesda, MD 20827, telephone (301) 654-2512.

This standard was processed and approved for submittal to ANSI by the National Information Standards Organization. NISO approval of this standard does not necessarily imply that all Voting Members voted for its approval. As the time it approved this standard, NISO had the following members:

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Scientific and Technical Reports — Elements, Organization, and Design

1. General Information

1.1 Purpose and Scope of Standard

This standard establishes guidelines for the elements, organization, and design of scientific and technical reports. The standard fosters uniformity in such reports, while allowing for diversity of subject matter, purpose, and audience. Because this publication is a standard rather than a report, it follows the ANSI-approved format for published standards rather than the prescribed report format.

1.2 Definition of Scientific and Technical Reports

Scientific and technical reports (hereafter referred to as "reports") convey the results of basic or applied research and support decisions based on those results. A report includes the ancillary information necessary for interpreting, applying, and replicating the results or techniques of an investigation. The primary purposes of such a report are to disseminate the results of scientific and technical research and to recommend action.

A report has a unique, issuer-supplied report number and may have a contract or grant number and an accession or acquisition number. A report also exhibits some or all of the following characteristics:

1. Its readership may be limited, its distribution may be limited or restricted, and its contents may include classified, proprietary, or copyrighted information.
2. It may be written for an individual or organization as a contractual requirement to recount a total research story, including full discussions of unsuccessful approaches.
3. It is not usually published or made available through commercial publishing; it is often available through a non-profit governmental entity (for example, the National Technical Information Service or the Government Printing Office).

2. Referenced Standards

2.1 American National Standards

This standard is intended for use in conjunction with the following American National Standards. When these standards are superseded by a revision approved by the American National Standards Institute, consult the revision.

ANSI Z39.4-1984, *Basic Criteria for Indexes*

ANSI Z39.14-1979 (R1986), *Writing Abstracts*

ANSI/NISO Z39.23-1990, *Standard Technical Report Number (STRN) Format and Creation*

ANSI Z39.29-1977, *Bibliographic References*

ANSI/NISO Z39.48-1992, *Permanence of Paper for Printed Publications and Documents in Libraries and Archives*

ANSI/NISO Z39.72-199X, *Format for Submission of Data for Multimedia CD-ROM Mastering* (draft standard)

ANSI/IEEE 268-1982 (R1992), *Metric Practice*

NISO/ANSI/ISO 9660, *Volume and File Structure of CD-ROM for Information Exchange*

NISO/ANSI/ISO 12083, *Electronic Manuscript Preparation and Markup*

2.2 Other Standards

In addition to ANSI standards, the following standards provide useful information for preparing reports:

ASTM E 380-1991, *Standard Practice for Use of the International System of Units (SI) (The Modernized Metric System)*

Federal Information Processing Standards Publication 152, 1988, *Standard Generalized Markup Language*

Federal Information Processing Standards Publication 29-2, *Interpretation Procedures for Federal Information Processing Standards for Software*

ISO 8879:1986, *Information Processing—Text and Office Systems—Standard Generalized Markup Language*

ISO 9069:1987, *Information Processing—SGML Support Facilities—SGML Document Interchange Format (SDIF)*