

INTERNATIONAL STANDARD

ISO
12083

First edition
1994-10-01

Information and documentation — Electronic manuscript preparation and markup

*Information et documentation — Préparation du manuscrit électronique
et balisage*



Reference number
ISO 12083:1994(E)
Documents
Document Sharing Hub

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 12083 was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 4, *Computer applications in information and documentation*.

Annexes A, B and C of this International Standard are for information only.

© ISO 1994

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Information and documentation — Electronic manuscript preparation and markup

1 Scope

This International Standard presents four document type definitions and additional facilities conforming to ISO 8879. This International Standard is intended to provide document architectures for the creation and interchange of books, articles and serial publications.

It specifies:

- a) the SGML declaration defining the syntax used by the document type definitions and document instances;
- b) the document type definitions for the following document classes:
 - i) Books;
 - ii) Articles;
 - iii) Serials, which are collections of articles;
- c) a document type definition for Mathematics which may be embedded in other SGML applications.

This International Standard provides a toolkit for developers of these types of publications to use as a basis for developing custom applications. The applications developed may be for authors, publishers, libraries, their users, and/or their database vendors. The document type definitions included in this International Standard have been designed to be flexible enough to expand or limit markup depending on the use of the application. For example, if the application is intended for authors, the copyright information could be removed. The markup is sufficiently general to enable its use for similarly structured documents, e.g. the Book DTD can also be used for technical reports.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent

editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 8879:1986, *Information processing - Text and office systems - Standard Generalized Markup Language (SGML)*.

ISO/IEC TR 9573:1988, *Techniques for applying SGML*.

ISO/IEC 10744:1992, *Information Technology - Hypermedia/Time based Structuring Language (HyTime)*.

ISO 8601:1988, *Data elements and interchange formats - Information interchange - Representation of dates and times*.

ISO 5127-2:1983, *Documentation and information - Vocabulary - Part 2: Traditional documents*.

ISO/IEC 9070:1991, *Information technology - SGML support facilities - Registration procedures for public text owner identifiers*.

ISO 3166:1994, *Codes for the representation of names of countries*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 8879, ISO/IEC TR 9573 and ISO 5127/2 apply.

4 Conformance

The intent of this International Standard is to provide a base set of elements to support the production and delivery cycle of a publication. Elements (e.g. table), or references to (e.g. mathematics) entity sets may be removed or modified as necessary for a specific application. The application should satisfy the following conditions to comply with this International Standard. It should:

- a) use the reference concrete syntax;
- b) declare user-defined elements in external parameter entities;
- c) identify use of this International Standard as a base by using the appropriate public identifier;
- d) override parameter entities defined in this International Standard to specify different order and occurrence or to specify user-defined elements or attributes;

- e) not allow user-defined elements to specify an alias of an element already defined in this International Standard;
- f) follow consistent naming conventions found in the document type definitions of this International Standard when creating new elements or attributes;
- g) conform to ISO 8879.

If the application is developed for interchange purposes, it is recommended that the DTD be registered following ISO/IEC 9070.

5 SGML declaration

The document type definitions in this International Standard use the reference concrete syntax.

The document type definitions in this International Standard are intended for use with basic SGML documents. These documents should use the SGML declaration in ISO 8879:1986, figure 8, subclause 15.1.1. Note that OMITTAG and SHORTTAG are allowable minimization features.

Use of the SGML Document Access or HyTime facilities may necessitate a change of the APPINFO parameter in the SGML declaration, replacing the keyword NONE by SDA or HYTIME or both (see Annex A Clauses 8.5 and 9.1):

APPINFO "SDA HYTIME"

6 The Book DTD

```
<!-- This is the ISO12083:1994 document type definition for Books.      -->
<!-- Copyright: (C) International Organization for Standardization 1994.
Permission to copy in any form is granted for use with conforming SGML
systems and applications as defined in ISO 8879:1986, provided this notice
is included in all copies.      -->

<!-- ===== -->
<!--   PUBLIC DOCUMENT TYPE DEFINITION SUBSET      -->
<!-- ===== -->

<!-- Typical invocation:
<?HyTime VERSION "ISO/IEC 10744:1992" HQCNT=32      >
<?HyTime MODULE base      >
<?HyTime MODULE locs multloc anydtd mixspace      >
<?HyTime MODULE links      >
```

```

<!DOCTYPE book PUBLIC "ISO 12083:1994//DTD Book//EN"
[<!ENTITY % ISOnum PUBLIC "ISO 8879:1986//ENTITIES Numeric and
    Special Graphic//EN"
    <!ENTITY % ISOpub PUBLIC "ISO 8879:1986//ENTITIES
    Publishing//EN"
    <!ENTITY % ISotech PUBLIC "ISO 8879:1986//ENTITIES
    General Technical//EN"
    <!ENTITY % ISodia PUBLIC "ISO 8879:1986//ENTITIES
    Diacritical Marks//EN"
    <!ENTITY % ISolat1 PUBLIC "ISO 8879:1986//ENTITIES
    Added Latin 1//EN"
    <!ENTITY % ISolat2 PUBLIC "ISO 8879:1986//ENTITIES
    Added Latin 2//EN"
    <!ENTITY % ISOamso PUBLIC "ISO 8879:1986//ENTITIES
    Added Math Symbols: Ordinary//EN"
    <!ENTITY % ISOgrk1 PUBLIC "ISO 8879:1986//ENTITIES
    Greek Letters//EN"
    <!ENTITY % ISOgrk3 PUBLIC "ISO 8879:1986//ENTITIES
    Greek Symbols//EN"
    %ISOnum;
    %ISOpub;
    %ISotech;
    %ISodia;
    %ISolat1;
    %ISolat2;
    %ISOamso;
    %ISOgrk1;
    %ISOgrk3;
    <!ENTITY % ereview PUBLIC "-//USA-DOD//DTD
    SUP MIL-M-28001 EREVIEW REV B//EN"
    %ereview;
]>

<!-- NOTES: 1. ISO/IEC TR 9573 Parts 12-16 are currently under review and will
    contain complete special character entity sets.
    2. MIL-M-28001 EREVIEW are the CALS facilities for electronic
    review.

<!-- =====
<!-- Entity Naming Conventions
<!-- =====

<!-- Prefix = where used:
    p. = in paragraphs (also in phrases if .ph suffix)
    s. = in sections (i.e., among paragraphs)
    i. = where allowed by inclusion exceptions
    m. = content model or declared content
    a. = attribute definition
    NONE= specific use defined in models

```

```

Suffix = allowed content:
.ph = elements whose content is %m.ph;
.d = elements whose content has same model as defaults
.zz = for subelements
NONE= individually defined elements
-->

<!ENTITY % doctype "book" -- default document type generic identifier -->

<!-- ++++++ Specialized Elements ++++++ -->
<!-- Specialized Elements -->
<!-- ++++++ -->

<!ENTITY % ade.ph "street|city|state|country|postcode|san|email|postbox|
phone|fax" -- address elements -->
<!ENTITY % bib "author|corpauth|msn|sertitle|location|date|pages|subject|
othinfo" -- bibliographic, date is the publication date-->

<!-- The following 5 declarations are specific to Books -->
<!ENTITY % bmsec.d "afterwr|notes|vita" -- back matter sections -->
<!ENTITY % bmsec.i "glossary|index" -- indexes and glossary -->
<!ENTITY % fmsec.d "foreword|intro|preface|ack|ded|abstract|supmatl"
-- front matter sections -->
<!ENTITY % pub "sponsor|contract|reprint|cpyrt|date|pubname|location|
confgr|avail" -- pubfront, date is publication date -->
<!ENTITY % pub.ph "coden|acqno|isbn|lccardno|reportid|edition|valid|catalog|
acidfree|price|extent|package|pubid"
-- publication related front matter material -->

<!-- ===== Basic Document Elements ===== -->
<!-- Basic Document Elements -->
<!-- ===== -->

<!ENTITY % i.float "figgrp|footnote|note" -- floating elements -->
<!ENTITY % p.el "deflist|orgaddr|indaddr|artwork|bq|lit|date|biblist|
author|corpauth|keyword|keyphras|poem|nameloc|indxflag"
-- general -->
<!ENTITY % p.em.ph "emph" -- emphasis -->
<!ENTITY % p.lst.d "list" -- list -->

<!-- The following declaration is specific to Books -->
<!ENTITY % p.rf.ph "noteref|fnoteref|figref|tbleref|artref|appref|citeref|
secref|formref|glosref|indexref" -- references -->

<!ENTITY % p.tbl "table" -- table matter -->
<!ENTITY % p.form "formula|dformula|dformgrp" -- mathematical formulas -->
<!ENTITY % p.zz "(%p.el;)|(%p.tbl;)|(%p.lst.d;)|(%p.form;)" -- paragraph
subelements -->
<!ENTITY % p.zz.ph "q|pages|(%p.em.ph;)|(%p.rf.ph;)" -- phrases -->
<!ENTITY % s.zz "p|(%p.zz;)" -- section subelements -->

```

```

<!-- ++++++ -->
<!--      Models -->
<!-- ++++++ -->

<!ENTITY % m.addr  "(%ade.ph;)*" -- address (no name) -->
<!ENTITY % m.bib   "(no?, title, (%bib;)*)" -- bibliographic entry -->
<!ENTITY % m.copy  "(date|cpyrtm|cpyrtclr)+" -- copyright notice data -->
<!ENTITY % m.date  "(#PCDATA)" -- date -->
<!ENTITY % m.fig   "EMPTY" -- default FIG content -->
<!ENTITY % m.sec   "(title?, (%s.zz;)*, section*)" -- section -->
<!ENTITY % m.name  "((fname? & surname), (degree|school)*, role*, (%ade.ph;)*,
aff?)" -- name components -->
<!ENTITY % m.org   "(orgname, orgdiv*, %m.addr;)" -- organization name -->
<!ENTITY % m.ph    "(#PCDATA|(%p.zz.ph;)|(%p.form;))*" -- phrase model -->
<!ENTITY % m.pseq  "(p, (p|(%p.zz;))*" -- P with sequence -->
<!ENTITY % m.poem  "(stanza+|poemline+)" -- poetry sub-elements -->

<!-- ++++++ -->
<!--      Attribute Definitions -->
<!-- ++++++ -->

<!ENTITY % a.id     "id ID #IMPLIED" -- ID attribute definition -->
<!ENTITY % a.rid    "rid IDREF #REQUIRED" -- IDREF attribute definition -->
<!ENTITY % au.rid   "rids IDREFS #IMPLIED" -- to refer to a unique id of
an affiliation -->

<!ENTITY % a.sizes  "size NUTOKEN #IMPLIED
sizey NUTOKEN #IMPLIED
unit CDATA #IMPLIED"
-- unit must be specified if size or sizey are. -->

<!ENTITY % a.types  "(latin|greek|cyrillic|hebrew|kanji) latin"
-- Indicates which alphabet is used in the element
(title, p, q). This may be changed to a notation
attribute, where the notation could describe a keyboard
mapping. Modify the set as necessary. -->

<!ENTITY % d.types  "(1|2|3|4|5) #IMPLIED"
-- Suggestions for date types:
1=ISO 8601:1988, 2=mm-dd-yy, 3=mm/dd/yy, 4=dd-mm-yy,
5=month day year; if more needed (e.g. day month year)
modify or extend this list as necessary. -->

<!ENTITY % e.types  "(1|2|3|4|5|6) #IMPLIED"
-- Suggestions for emphasis types:
1=bold, 2=italic, 3=bold italic, 4=underline,
5=non proportional, 6=smallcaps; if more needed
modify or extend this list as necessary. -->

<!ENTITY % l.types  "(1|2|3|4|5|6) #IMPLIED"
-- Suggestions for list types:
1=arabic, 2=uppercase alpha, 3=roman, 4=bullet, 5=dash,
6=unlabelled; if more needed (e.g. lower alpha)
modify or extend this list as necessary. -->

<!-- The following 2 declarations are specific to Books -->

<!ENTITY % m.idx    "(%m.sec;|((indxname|indxsubj)*, pages*))"
-- model for indexes and glossary -->

```

```

<!ENTITY % m.toc      "EMPTY" -- table of contents; automatic generation
                           assumed, add a specific content model if required      -->

<!-- ++++++ -->
<!--      Accessible Document Parameter Entities      -->
<!-- ++++++ -->

<!ENTITY % SDAFORM    "SDAFORM    CDATA    #FIXED"      >
<!ENTITY % SDARULE    "SDARULE    CDATA    #FIXED"      >
<!ENTITY % SDAPREF    "SDAPREF    CDATA    #FIXED"      >
<!ENTITY % SDASUFF    "SDASUFF    CDATA    #FIXED"      >
<!ENTITY % SDASUSP    "SDASUSP    NAME    #FIXED"      >

<!-- ===== -->
<!--      DATA CONTENT NOTATIONS      -->
<!-- ===== -->

<!-- These are examples. Add other public notations as required.      -->

<!NOTATION eps        PUBLIC
" +//ISBN 0-201-18127-4::Adobe//NOTATION Postscript Language Reference
Manual//EN"          >
<!NOTATION tex        PUBLIC
" +//ISBN 0-201-13448-9::Knuth//NOTATION The TeXbook//EN"      >
<!NOTATION cgmchar    PUBLIC      "ISO 8632/2//NOTATION Character encoding//EN" >
<!NOTATION cgmclear   PUBLIC      "ISO 8632/4//NOTATION Clear text encoding//EN">
<!NOTATION tiff       PUBLIC      "ISO 12083:1993//NOTATION TIFF-1//EN"      >

<!-- ===== -->
<!--      THE DOCUMENT STRUCTURE      -->
<!-- ===== -->

<!--      ELEMENT          MIN  CONTENT          (EXCEPTIONS)      -->
<!ELEMENT (%doctype;)    - -  (front, body, appmat?, back?)
                                   +(%i.float;)          >

<!-- ===== -->
<!--      FRONT MATTER ELEMENTS      -->
<!-- ===== -->

<!-- The following 2 declarations are specific to Books      - >
<!ELEMENT front          0 0  (titlegrp, authgrp, date?, pubfront?,
                                   (%fmsec.d;)*, toc?)          >
<!ELEMENT (%fmsec.d;)    - 0  %m.sec;          >

<!-- ++++++ -->
<!--      Title Group      -->
<!-- ++++++ -->

<!ELEMENT titlegrp      0 0  (msn?, sertitle?, no?, title, subtitle?) >

```

```

<!ELEMENT (title|subtitle)      - O  %m.ph;                                >

<!-- ++++++ -->
<!--   Author Group              -->
<!-- ++++++ -->

<!ELEMENT authgrp              O O  (author|corpauth|aff)*                >
<!ELEMENT author               - O  %m.name;                              >
<!ELEMENT (fname|surname|role|degree|orgname|orgdiv)
               - O  (#PCDATA)                                             >
<!ELEMENT (aff|corpauth|school)
               - O  %m.org;                                                >
<!ELEMENT (%ade.ph;)           - O  (#PCDATA)                             >

<!-- ++++++ -->
<!--   Publisher's Front Matter  -->
<!-- ++++++ -->

<!ELEMENT pubfront             - O  ((%pub;)|(%pub.ph;))*                >
<!ELEMENT (%pub.ph;|contract)  - O  (#PCDATA)                             >
<!ELEMENT (pubname|avail|sponsor)
               - O  %m.org;                                                >
<!ELEMENT reprint              - O  (%m.org;|%m.name;)                    >

<!-- ++++++ -->
<!--   Copyright                 -->
<!-- ++++++ -->

<!ELEMENT cpyrt                - -  %m.copy;                              >
<!ELEMENT cpyrtclr             - -  %m.org;                              >
<!ELEMENT cpyrtname            - -  (%m.org;|%m.name;)                    >

<!-- ++++++ -->
<!--   Conference Group          -->
<!-- ++++++ -->

<!ELEMENT confgrp              - -  (no?, confname, date?, location?,
               sponsor?)                                                >
<!ELEMENT confname             - O  (#PCDATA)                             >

<!-- ++++++ -->
<!--   Date                      -->
<!-- ++++++ -->

<!ELEMENT date                 - O  %m.date;                              >

```

```

<!-- ++++++ -->
<!-- Table of Contents -->
<!-- ++++++ -->

<!ELEMENT toc - O %m.toc; >

<!-- ===== -->
<!-- BODY ELEMENTS -->
<!-- ===== -->

<!-- ++++++ -->
<!-- Body Structure -->
<!-- ++++++ -->

<!ELEMENT body O O (part+|chapter+) >
<!ELEMENT part - O (no?, title?, (%s.zz;)*, chapter+) >
<!ELEMENT chapter - O (no?, %m.sec;) >
<!ELEMENT section - O (no?, title?, (%s.zz;)*, subsect1*) >
<!ELEMENT subsect1 - O (no?, title?, (%s.zz;)*, subsect2*) >
<!ELEMENT subsect2 - O (no?, title?, (%s.zz;)*, subsect3*) >
<!ELEMENT subsect3 - O (no?, title?, (%s.zz;)*, subsect4*) >
<!ELEMENT subsect4 - O (no?, title?, (%s.zz;)*, subsect5*) >
<!ELEMENT subsect5 - O (no?, title?, (%s.zz;)*, subsect6*) >
<!ELEMENT subsect6 - O (no?, title?, (%s.zz;)*) >
<!ELEMENT no - O (#PCDATA) >

<!-- ++++++ -->
<!-- Section Subelements -->
<!-- ++++++ -->

<!ELEMENT p - O (#PCDATA|(%p.zz.ph;)|(%p.zz;))* >

<!-- ++++++ -->
<!-- Paragraph Subelements -->
<!-- ++++++ -->

<!ELEMENT bq - - %m.pseq; >
<!ELEMENT indaddr - O %m.name; -- individual address -->
<!ELEMENT orgaddr - O %m.org; -- organization address -->
<!ELEMENT artwork - O EMPTY >

<!ELEMENT lit - - RCDATA >

<!ELEMENT (%p.lst.d;) - - (head?, item)* >
<!ELEMENT item - O %m.pseq; >

<!ELEMENT deflist - - ((head, ddhd)?, term, dd)* >
<!ELEMENT (term|head|ddhd) - O %m.ph; >
<!ELEMENT dd - O %m.pseq; >

<!ELEMENT biblist - O (head?, citation)* >
<!ELEMENT citation - O %m.bib; >

```

```

<!ELEMENT (othinfo|subject|sertitle)
                - O %m.ph;                                >

<!ELEMENT location                - O %m.addr;            >
<!ELEMENT (msn|pages)             - O (#PCDATA)           >
<!ELEMENT keyword                 - O (#PCDATA)           >
<!ELEMENT keyphras                - O (#PCDATA)           >
<!ELEMENT indxflag               - O EMPTY                >

<!-- ++++++ -->
<!--      Poetry -->
<!-- ++++++ -->

<!ELEMENT poem                    - O %m.poem;            >
<!ELEMENT stanza                 - O (poemline)+          >
<!ELEMENT poemline               - O (#PCDATA|cline|%p.em.ph;)* >
<!ELEMENT cline                  - O (#PCDATA|%p.em.ph;)* >

<!-- ++++++ -->
<!--      Phrases -->
<!-- ++++++ -->

<!ELEMENT q                      - - %m.ph;               >
<!ELEMENT (%p.em.ph;)           - - %m.ph;               >
<!ELEMENT (%p.rf.ph;)           - - (#PCDATA)             >

<!-- ++++++ -->
<!--      For HyTime Links -->
<!-- ++++++ -->

<!ELEMENT nameloc                - O (nmlist*) -- assigns a local ID to
                                named objects                -->
<!ELEMENT nmlist                 - O (#PCDATA) -- list of local ID or entity
                                names                        -->

<!-- ++++++ -->
<!--      Floating Elements -->
<!-- ++++++ -->

<!ELEMENT figgrp                 - - (title? & fig*)      >
<!ELEMENT fig                    - O %m.fig;              >
<!ELEMENT footnote               - - (no?, %m.pseq;)      -(%i.float;) >
<!ELEMENT note                   - - (no?, %m.pseq;)      >

<!-- ++++++ -->
<!--      Tables -->
<!-- ++++++ -->

<!ELEMENT table                  - - (no?, title?, tbody)  -(%i.float;) >
<!ELEMENT tbody                 - O (head*, tsubhead*, row*) >

```

```

<!ELEMENT row                - O  (tstub?, cell*)                >
<!ELEMENT tsubhead           - O  %m.ph;                        >
<!ELEMENT (tstub|cell)       - O  %m.pseq;                      >

<!-- ++++++----- -->
<!--      Mathematics                                         -->
<!-- ++++++----- -->

<!ENTITY % maths PUBLIC "ISO 12083:1994//DTD Mathematics//EN"    >
%maths;

<!-- Remove these comments if the formula's follow a NOTATION rather than
      SGML.
<!ELEMENT dformgrp           - O  (dformula)+                    >
<!ELEMENT (formula|dformula) - -  CDATA                          >
-->

<!-- ===== -->
<!--      APPENDIX ELEMENTS                                     -->
<!-- ===== -->

<!ELEMENT appmat             - O  (appendix+)                    >
<!ELEMENT appendix          - O  (no?, %m.sec;)                  >

<!-- ===== -->
<!--      BACK MATTER ELEMENTS                                   -->
<!-- ===== -->

<!-- The following 3 declarations are specific to Books          -->
<!ELEMENT back               - O  ((%bmsec.d;)|(%bmsec.i;)|biblist)* >
<!ELEMENT (%bmsec.d;)        - O  %m.sec;                        >
<!ELEMENT (%bmsec.i;)        - O  %m.idx;                        >

<!ELEMENT (indxname|indxsubj) - O  (#PCDATA)                     >

<!-- ===== -->
<!--      ATTRIBUTE DEFINITION LISTS                             -->
<!-- ===== -->

<!-- HyTime attributes were added to all references,           -->
      the citation and doclink elements

<!-- The SGML Document Access attributes for Braille, large print
and voice synthesis markup have been added to the attributes already
declared in this DTD in the first section following, and then for
all elements which have no attributes except for the SDA set.    -->

<!--      ELEMENT   NAME      VALUE      DEFAULT      -->
<!ATTLIST abstract  %a.id;
      %SDAPREF;
      "<h1>Abstract</h1>" >

```

```

<!ATTLIST ack      %a.id;
      %SDAPREF;
      "<h1>Acknowledgements</h1>"
>

<!ATTLIST aff      %a.id;
>

<!ATTLIST afterwrd  %a.id;
      %SDAPREF;
      "<h1>Afterword</h1>"
>

<!ATTLIST appendix  %a.id;
      %SDAPREF;
      "<h1>Appendix</h1>"
>

<!ATTLIST artwork   %a.id;
      %a.sizes;
      name          ENTITY          #IMPLIED
      %SDAFORM;
      "fig #attrib ID"
>

<!ATTLIST author    %au.rid;
      %SDAFORM;
      "au"
>

<!ATTLIST biblist   file          ENTITY          #IMPLIED
      %SDAFORM;
      "list"
      %SDAPREF;
      "Bibliography"
>

<!ATTLIST chapter   %a.id;
      SDABDY        NAMES          #FIXED
      SDAPART        NAMES          #FIXED
      "title h1"
      "title h2"
>

<!ATTLIST citation  id            ID
      HyTime        NAME
      %SDARULE;
      #REQUIRED
      #FIXED bibloc
      "title it
      author para
      corpauth para
      sertitle it"
>

<!ATTLIST corpauth   %a.id;
      %SDAFORM;
      "au"
>

<!ATTLIST country   cnycode        NAME
      #IMPLIED
      --name should follow ISO 3166-->

<!ATTLIST date       type          %d.types;
      %SDAPREF;
      "Date:"
>

<!ATTLIST dd         %a.id;
      %SDAFORM;
      "para"
>

<!ATTLIST ded        %a.id;
      %SDAPREF;
      "<h1>Dedication</h1>"
>

<!ATTLIST deflist    %a.id;
      %SDAFORM;
      %SDAPREF;
      "list"
      "<?SDATRANS>Definitions "
>

```

```

<!ATTLIST %doctype; %a.id;
                        HyTime      NAME      #FIXED HyDoc
                        %SDAFORM;      "book"
                        >

<!ATTLIST fig          %a.id;
                        %a.sizeS;
                        name        ENTITY    #IMPLIED
                        scale       NUMBER    100
                        %SDAPREF;      "<?SDATRANS>Figure: "
                        >

<!ATTLIST figgrp       %a.id;
                        %SDARULE;      "title para"
                        >

<!ATTLIST footnote     %a.id;
                        %SDAFORM;      "fn"
                        >

<!ATTLIST foreword     %a.id;
                        %SDAPREF;      "<h1>Foreword</h1>"
                        >

<!ATTLIST glossary     %a.id;
                        %SDAPREF;      "<h1>Glossary</h1>"
                        >

<!ATTLIST index        %a.id;
                        %SDAPREF;      "<h1>Index</h1>"
                        >

<!ATTLIST indxflag     ref1        CDATA    #IMPLIED
                        ref2        CDATA    #IMPLIED
                        ref3        CDATA    #IMPLIED
                        ref4        CDATA    #IMPLIED
                        >

<!ATTLIST intro        %a.id;
                        %SDAPREF;      "<h1>Introduction</h1>"
                        >

<!ATTLIST item         %a.id;
                        %SDAFORM;      "litem"
                        >

<!ATTLIST note         %a.id;
                        %SDAFORM;      "note"
                        >

<!ATTLIST nameloc      HyTime      NAME      nameloc
                        id          ID        #REQUIRED
                        -- multloc attributes --
                        ordering     (ordered|noorder)
                                      noorder
                        -- is ordering of locations significant? --
                        set          (set|notset) notset
                        -- make multiple a set by ignoring duplicates --
                        agglòc       (aggloc|agglink|nagg)
                                      nagg
                        -- are multiple locations an aggregate? --
                        %SDAPREF;      "<?SDATRANS>Nameloc:"
                        >

```

```

<!ATTLIST nmlist      HyTime      NAME      nmlist
                      nametype (entity|element) entity
                      -- entity names or IDs of elements --
                      obnames (obnames|nobnames) nobnames
                      -- objects treated as names? --
                      docorsub ENTITY      #IMPLIED
                      dtdorlpd NAMES      #IMPLIED
                      %SDAPREF;              "<?SDATRANS>Namelist:"      >

<!ATTLIST p          %a.id;
                      alphabet %a.types;
                      %SDAFORM;              "para"      >

<!ATTLIST part
                      %SDARULE;              "chapter #use SDAPART"      >

<!ATTLIST preface    %a.id;
                      %SDAPREF;              "<h1>Preface</h1>"      >

<!ATTLIST %p.em.ph; type      %e.types;
                      %SDARULE;              "[emph type=1] b
                                              [emph type=2] it
                                              [emph type=(3|4|5|6)] other" >

<!ATTLIST %p.lst.d; %a.id;
                      type      %l.types;
                      %SDAFORM;              "list"
                      %SDAPREF;              "[list type=1]#set (item,#count(item,1))
                                              [list type=2]#set (item,#count(item,A))
                                              [list type=3]#set (item,#count(item,I))
                                              [list type=4]#set (item,#count(item,'* '))
                                              [list type=5]#set (item,#count(item,'- '))" >

<!ATTLIST (%p.rf.ph;)
                      %a.id;
                      %a.rid;
                      HyTime      NAME      #FIXED clink
                      HyNames     CDATA     #FIXED "rid linkend"
                      %SDAFORM;              "xref #attrib IDREF"      >

<!ATTLIST %p.tbl;    %a.id;
                      %SDAFORM;              "table"
                      %SDARULE;              "title h3
                                              head hcell"
                      %SDAPREF;              "<?SDATRANS>"      >

<!ATTLIST q          %a.id;
                      alphabet %a.types;
                      %SDAPREF;              ""
                      %SDASUFF;              ""      >

<!ATTLIST section    %a.id;
                      SDABDY      NAMES     #FIXED      "title h2"
                      SDAPART      NAMES     #FIXED      "title h3"      >

```

```

<!-- ATTLIST subject1 %a.id;
      SDABDY NAMES #FIXED "title h3"
      SDAPART NAMES #FIXED "title h4"
-->

<!-- ATTLIST subject2 %a.id;
      SDABDY NAMES #FIXED "title h4"
      SDAPART NAMES #FIXED "title h5"
-->

<!-- ATTLIST subject3 %a.id;
      SDABDY NAMES #FIXED "title h5"
      SDAPART NAMES #FIXED "title h6"
-->

<!-- ATTLIST subject4 %a.id;
      SDABDY NAMES #FIXED "title h6"
      SDAPART NAMES #FIXED "title b"
-->

<!-- ATTLIST (subject5|subject6)
      %a.id;
      SDABDY NAMES #FIXED "title b"
      SDAPART NAMES #FIXED "title b"
-->

<!-- ATTLIST term %a.id;
      %SDAFORM; "term"
-->

<!-- ATTLIST title alphabet %a.types;
      purpose (normal|run) normal
      %SDAFORM; "ti"
-->

<!-- ===== -->
<!-- SDA ATTRIBUTES -->
<!-- ===== -->

<!-- The following declarations support elements whose only
      attributes are SDA attributes:
-->

<!-- ATTLIST acqno
      %SDAFORM; "para"
      %SDAPREF; "Acquisition/order number: "
-->

<!-- ATTLIST avail
      %SDAFORM; "para"
      %SDAPREF; "Available from: "
-->

<!-- ATTLIST body
      %SDARULE; "chapter #use SDABDY "
-->

<!-- ATTLIST bq
      %SDAFORM; "bq"
-->

<!-- ATTLIST cpyrtclr
      %SDAFORM; "para"
      %SDAPREF; "Copyright clearance center: ">

```

<!ATTLIST coden %SDAFORM; %SDAPREF;	"para" "CODEN: " >
<!ATTLIST contract %SDAFORM; %SDAPREF;	"para" "Contract or grant number: " >
<!ATTLIST sponsor %SDAFORM; %SDAPREF;	"para" "(Contract or grant) sponsor:">
<!ATTLIST catalog %SDAFORM; %SDAPREF;	"para" "<?SDATRANS>Cataloguing in publication information: " >
<!ATTLIST cell %SDAFORM;	"cell" >
<!ATTLIST confgrp %SDAFORM; %SDAPREF;	"para" "Conference group: " >
<!ATTLIST confname %SDAFORM; %SDAPREF;	"para" "Conference name: " >
<!ATTLIST cpyrt %SDAFORM; %SDAPREF;	"para" "<?SDATRANS>Copyright notice:">
<!ATTLIST ddhd %SDAFORM;	"lhead" >
<!ATTLIST email %SDAFORM; %SDAPREF;	"para" "Electronic address: " >
<!ATTLIST edition %SDAFORM; %SDAPREF;	"para" "<?SDATRANS>Edition: " >
<!ATTLIST extent %SDAFORM; %SDAPREF;	"para" "Number of pages: " >
<!ATTLIST fax %SDAFORM; %SDAPREF;	"para" "Fax number: " >
<!ATTLIST head %SDAFORM;	"lhead" >

<!ATTLIST (indaddr orgaddr) %SDAFORM; %SDAPREF;	"para" "Address: "	>
<!ATTLIST (indxname indxsubj) %SDAFORM;	"term"	>
<!ATTLIST isbn %SDAFORM; %SDAPREF;	"para" "ISBN: "	>
<!ATTLIST (keyphras keyword) %SDAFORM;	"term"	>
<!ATTLIST lccardno %SDAFORM; %SDAPREF;	"para" "LC card number: "	>
<!ATTLIST lit %SDAFORM;	"lit"	>
<!ATTLIST location %SDAFORM; %SDAPREF;	"para" "Location: "	>
<!ATTLIST notes %SDAPREF;	" Notes "	>
<!ATTLIST othinfo %SDAFORM;	"para"	>
<!ATTLIST acidfree %SDAFORM; %SDAPREF;	"para" "Acid free paper indicator: "	>
<!ATTLIST phone %SDAFORM; %SDAPREF;	"para" "Phone: "	>
<!ATTLIST pubid %SDAFORM; %SDAPREF;	"para" "Publisher's ID number: "	>
<!ATTLIST package %SDAFORM; %SDAPREF;	"para" "Packaging method: "	>
<!ATTLIST pubname %SDAFORM; %SDAPREF;	"para" "Publisher: "	>
<!ATTLIST pages %SDAFORM;	"pp"	>

```

<!ATTLIST price
    %SDAFORM;          "para"
    %SDAPREF;          "Price: "      >

<!ATTLIST reportid
    %SDAFORM;          "para"
    %SDAPREF;          "Report identifier: "  >

<!ATTLIST reprint
    %SDAFORM;          "para"
    %SDAPREF;          "Reprint source: "    >

<!ATTLIST row
    %SDAFORM;          "row"                >

<!ATTLIST san
    %SDAFORM;          "para"
    %SDAPREF;          "Standard address number: " >

<!ATTLIST subtitle
    %SDAFORM;          "h1"                  >

<!ATTLIST subject
    %SDAFORM;          "it"                  >

<!ATTLIST supmat1
    %SDAFORM;          "para"
    %SDAPREF;          "Supporting material: "  >

<!ATTLIST sertitle
    %SDAFORM;          "ti"                  >

<!ATTLIST tbody
    %SDAFORM;          "tbody"               >

<!ATTLIST tstub
    %SDAFORM;          "stubcell"            >

<!ATTLIST tsubhead
    %SDAFORM;          "hdcell"              >

<!ATTLIST toc
    %SDAFORM;          "list"
    %SDAPREF;          "<?SDATRANS>Contents"  >

<!ATTLIST volid
    %SDAFORM;          "para"
    %SDAPREF;          "Volume identifier: "    >

<!-- Remove the comment declaration around the next three declarations
      if formulas follow a notation rather than SGML

```

```

<!ATTLIST formula
    %a.id;
    notation NOTATION (tex)          #IMPLIED
    alphabet %a.types;
    %SDAPREF;                        "<?SDATRANS>Inline formula: "
    %SDASUSP;                        "SUSPEND"
>

<!ATTLIST dformula
    %a.id;
    alphabet %a.types;
    notation NOTATION (tex)          #IMPLIED
    num      CDATA                    #IMPLIED
    align    (left|center|right)      center
    %SDAPREF;                        "<?SDATRANS>Display formula: "
    %SDASUSP;                        "SUSPEND"
>

<!ATTLIST dformgrp
    %a.id;
    num      CDATA                    #IMPLIED
    align    (left|center|right)      center
    %SDAPREF;                        "<?SDATRANS>Display formula group: ">
-->

```

7 The Article DTD

```

<!-- This is the ISO12083:1994 document type definition for an Article.
      It can be embedded in a Serial.
-->
<!-- Copyright: (C) International Organization for Standardization 1994.
Permission to copy in any form is granted for use with conforming SGML
systems and applications as defined in ISO 8879:1986, provided this
notice is included in all copies.
-->

<!-- =====
<!-- PUBLIC DOCUMENT TYPE DEFINITION SUBSET
<!-- =====

<!-- Typical invocation:
<?HyTime VERSION "ISO/IEC 10744:1992" HQCNT=32
>
<?HyTime MODULE base
>
<?HyTime MODULE locs multloc anydtd mixspace
>
<?HyTime MODULE links
>
<!DOCTYPE article PUBLIC "ISO 12083:1994//DTD Article//EN"
[<!ENTITY % ISOnum PUBLIC "ISO 8879:1986//ENTITIES Numeric and
      Special Graphic//EN"
>
<!ENTITY % ISOpub PUBLIC "ISO 8879:1986//ENTITIES
      Publishing//EN"
>
<!ENTITY % ISOpub PUBLIC "ISO 8879:1986//ENTITIES
      Publishing//EN"
>
<!ENTITY % ISotech PUBLIC "ISO 8879:1986//ENTITIES
      General Technical//EN"
>

```

```

<!ENTITY % ISodia PUBLIC "ISO 8879:1986//ENTITIES
    Diacritical Marks//EN"
>
<!ENTITY % ISolat1 PUBLIC "ISO 8879:1986//ENTITIES
    Added Latin 1//EN"
>
<!ENTITY % ISolat2 PUBLIC "ISO 8879:1986//ENTITIES
    Added Latin 2//EN"
>
<!ENTITY % ISOamso PUBLIC "ISO 8879:1986//ENTITIES
    Added Math Symbols: Ordinary//EN"
>
<!ENTITY % ISOgrk1 PUBLIC "ISO 8879:1986//ENTITIES
    Greek Letters//EN"
>
<!ENTITY % ISOgrk3 PUBLIC "ISO 8879:1986//ENTITIES
    Greek Symbols//EN"
>
%ISONum;
%ISOpub;
%ISotech;
%ISodia;
%ISolat1;
%ISolat2;
%ISOamso;
%ISOgrk1;
%ISOgrk3;
<!ENTITY % ereview PUBLIC "-//USA-DOD//DTD
    SUP MIL-M-28001 EREVIEW REV B//EN"
>
%ereview;
]>
-->

<!-- NOTES: 1. ISO/IEC TR 9573 Parts 12-16 are currently under review and will
    contain complete special character entity sets.
    2. MIL-M-28001 EREVIEW are the CALS facilities for electronic
    review.
-->

<!-- ===== -->
<!-- Entity Naming Conventions -->
<!-- ===== -->

<!-- Prefix = where used:
    p. = in paragraphs (also in phrases if .ph suffix)
    s. = in sections (i.e., among paragraphs)
    i. = where allowed by inclusion exceptions
    m. = content model or declared content
    a. = attribute definition
    NONE= specific use defined in models

Suffix = allowed content:
    .ph = elements whose content is %m.ph;
    .d = elements whose content has same model as defaults
    .zz = for subelements
    NONE= individually defined elements
-->

<!ENTITY % doctype "article" -- default document type generic identifier -->

```

```

<!-- ++++++ -->
<!-- Specialized Elements -->
<!-- ++++++ -->

<!ENTITY % ade.ph "street|city|state|country|postcode|san|email|postbox|
phone|fax" -- address elements -->
<!ENTITY % bib "author|corpauth|msn|sertitle|location|date|pages|subject|
othinfo" -- bibliographic, date is the publication date -->

<!-- The following 4 declarations are specific to Articles -->
<!ENTITY % bmsec.d "ack|vita" -- back matter cps elements -->
<!ENTITY % fmsec.d "ded|abstract|supmatl" -- front matter sections -->
<!ENTITY % pub "sponsor|contract|reprint|cpyrt|date|pubname|location|
confgrp|avail|history"
-- pubfront, date is the publication date -->
<!ENTITY % pub.ph "fpage|lpage|coden|acqno|issn|acidfree|price|extent|artid|
category|pubid"
-- publication related front matter material -->

<!-- ===== -->
<!-- Basic Document Elements -->
<!-- ===== -->

<!ENTITY % i.float "figgrp|footnote|note" -- floating elements -->
<!ENTITY % p.el "deflist|orgaddr|indaddr|artwork|bq|lit|date|biblist|author
|corpauth|keyword|keyphras|poem|nameloc|indxflag"
-- general -->
<!ENTITY % p.em.ph "emph" -- emphasis -->
<!ENTITY % p.lst.d "list" -- list -->

<!-- The following declaration is specific to Articles -->
<!ENTITY % p.rf.ph "noteref|fnoteref|figref|tbleref|artref|appref|citeref|
secref|formref" -- references -->

<!ENTITY % p.tbl "table" -- table matter -->
<!ENTITY % p.form "formula|dformula|dformgrp" -- mathematical formulas -->
<!ENTITY % p.zz "(%p.el;)|(%p.tbl;)|(%p.lst.d;)|(%p.form;)"
-- paragraph subelements -->

<!ENTITY % p.zz.ph "q|pages|(%p.em.ph;)|(%p.rf.ph;)" -- phrases -->
<!ENTITY % s.zz "p|(%p.zz;)" -- section subelements -->

<!-- ++++++ -->
<!-- Models -->
<!-- ++++++ -->

<!ENTITY % m.addr "(%ade.ph;)*" -- address (no name) -->
<!ENTITY % m.bib "(no?, title, (%bib;)*)" -- bibliographic entry -->
<!ENTITY % m.copy "(date|cpyrt|nme|cpyrtclr)+" -- copyright notice data -->
<!ENTITY % m.date "(#PCDATA)" -- date -->
<!ENTITY % m.fig "EMPTY" -- default FIG content -->
<!ENTITY % m.sec "(title?, (%s.zz;)*, section*)" -- section -->

```

```

<!ENTITY % m.name      "((fname? & surname), (degree|school)*, role*, (%ade.ph;)*,
                        aff?)" -- name components          -->
<!ENTITY % m.org        "(orgname, orgdiv*, %m.addr;)" -- organization name      -->
<!ENTITY % m.ph          "(#PCDATA|(%p.zz.ph;)|(%p.form;))*" -- phrase model      -->
<!ENTITY % m.pseq        "(p, (p|(%p.zz;))*" -- P with sequence                -->
<!ENTITY % m.poem        "(stanza+|poemline+)" -- poetry sub-elements          -->

<!-- ++++++ Attribute Definitions ++++++ -->
<!--      Attribute Definitions      -->
<!-- ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ -->

<!ENTITY % a.id          "id ID #IMPLIED" -- ID attribute definition              -->
<!ENTITY % a.rid          "rid IDREF #REQUIRED" -- IDREF attribute definition      -->
<!ENTITY % au.rid         "rids IDREFS #IMPLIED" -- to refer to a unique id of
                        an affiliation                      -->

<!ENTITY % a.sizes        "size NUTOKEN #IMPLIED
                        sizey NUTOKEN #IMPLIED
                        unit CDATA #IMPLIED"
                        -- unit must be specified if size or sizey are.          -->
<!ENTITY % a.types        "(latin|greek|cyrillic|hebrew|kanji) latin"
                        -- Indicates which alphabet is used in the
                        element (title, p, q). This may be changed to a notation
                        attribute, where the notation could describe a keyboard
                        mapping. Modify the set as necessary.                      -->
<!ENTITY % d.types        "(1 | 2 | 3 | 4 | 5) #IMPLIED"
                        -- Suggestions for date types:
                        1=ISO 8601:1988, 2=mm-dd-yy, 3=mm/dd/yy, 4=dd-mm-yy,
                        5=month day year; if more needed (e.g. "day month year")
                        modify or extend this list as necessary.                  -->

<!ENTITY % e.types        "(1|2|3|4|5|6) #IMPLIED"
                        -- Suggestions for emphasis types:
                        1=bold, 2=italic, 3=bold italic, 4=underline,
                        5=non proportional, 6=smallcaps; if more needed
                        modify or extend this list as necessary.                  -->

<!ENTITY % l.types        "(1 | 2 | 3 | 4 | 5| 6) #IMPLIED"
                        -- Suggestions for list types:
                        1=arabic, 2=upper alpha, 3=roman, 4=bullet, 5=dash,
                        6=unlabelled; if more needed (e.g. lower alpha)
                        modify or extend this list as necessary.                  -->

<!-- ++++++ Accessible Document Parameter Entities ++++++ -->
<!--      Accessible Document Parameter Entities      -->
<!-- ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ ++++++ -->

<!ENTITY % SDAFORM        "SDAFORM CDATA #FIXED"          >
<!ENTITY % SDARULE        "SDARULE CDATA #FIXED"          >
<!ENTITY % SDAPREF        "SDAPREF CDATA #FIXED"          >
<!ENTITY % SDASUFF        "SDASUFF CDATA #FIXED"          >
<!ENTITY % SDASUSP        "SDASUSP NAME #FIXED"           >

```

```

<!-- ===== -->
<!--      DATA CONTENT NOTATIONS      -->
<!-- ===== -->

<!-- These are only some examples. Add other public notations as required. -->

<!NOTATION eps      PUBLIC
" +//ISBN 0-201-18127-4::Adobe//NOTATION PostScript Language Reference
Manual//EN"
<!NOTATION tex      PUBLIC
" +//ISBN 0-201-13448-9::Knuth//NOTATION The TeXbook//EN"
<!NOTATION cgmchar   PUBLIC      "ISO 8632/2//NOTATION Character encoding//EN" >
<!NOTATION cgmclear  PUBLIC      "ISO 8632/4//NOTATION Clear text encoding//EN">
<!NOTATION tiff      PUBLIC      "ISO 12083:1993//NOTATION TIFF-1//EN"      >

<!-- ===== -->
<!--      THE DOCUMENT STRUCTURE      -->
<!-- ===== -->

<!--      ELEMENT              MIN  CONTENT              (EXCEPTIONS)      -->
<!ELEMENT (%doctype;)        - -  (front, body, appmat?, back?)
                                     +(%i.float;)      >

<!-- ===== -->
<!--      FRONT MATTER ELEMENTS      -->
<!-- ===== -->

<!-- The following declaration is specific to Articles -->
<!ELEMENT front              0 0  (titlegrp, authgrp, date?, pubfront?,
                                   ((%fmsec.d;)|keyword|keyphras)*)      >

<!ELEMENT (%fmsec.d;)        - 0  %m.sec;      >

<!-- ===== -->
<!--      Title Group      -->
<!-- ===== -->

<!ELEMENT titlegrp          0 0  (title, subtitle*)      >
<!ELEMENT (title|subtitle)  - 0  %m.ph;      >

<!-- ===== -->
<!--      Author Group      -->
<!-- ===== -->

<!ELEMENT authgrp          0 0  (author|corpauth|aff)*      >
<!ELEMENT author           - 0  %m.name;      >
<!ELEMENT (fname|surname|role|degree|orgname|orgdiv)
- 0  (#PCDATA)      >

<!ELEMENT (aff|corpauth|school)
- 0  %m.org;      >

```

```

<!ELEMENT (%ade.ph;)          - O  (#PCDATA)          >

<!-- ++++++ -->
<!-- Publisher's Front Matter -->
<!-- ++++++ -->

<!ELEMENT pubfront            - O  ((%pub;) | (%pub.ph;))*  >
<!ELEMENT (%pub.ph;|contract) - O  (#PCDATA)              >
<!ELEMENT (pubname|avail|sponsor)
      - O  %m.org;                                          >
<!ELEMENT reprint            - O  (%m.org;|%m.name;)        >

<!-- ++++++ -->
<!-- Article's History -->
<!-- ++++++ -->

<!-- The following 2 declarations are specific to Articles -->
<!ELEMENT history            - O  (received|accepted|revised|misc)*  >
<!ELEMENT (received|accepted|revised)
      - O  (date)                                          >
<!ELEMENT misc              - O  (p*, date)                >

<!-- ++++++ -->
<!-- Copyright -->
<!-- ++++++ -->

<!ELEMENT cpyrt              - -  %m.copy;                  >
<!ELEMENT cpyrtclr           - -  %m.org;                    >
<!ELEMENT cpyrtname          - -  (%m.org;|%m.name;)        >

<!-- ++++++ -->
<!-- Conference Group -->
<!-- ++++++ -->

<!ELEMENT confgrp            - -  (no?, confname, date?, location?,
      sponsor?)                                          >
<!ELEMENT confname           - O  (#PCDATA)                >

<!-- ++++++ -->
<!-- Date -->
<!-- ++++++ -->

<!ELEMENT date              - O  %m.date;                  >

```

```

<!-- ===== -->
<!-- BODY ELEMENTS -->
<!-- ===== -->

<!-- ++++++ -->
<!-- Body Structure -->
<!-- ++++++ -->

<!ELEMENT body 0 0 (part+|chapter+) >
<!ELEMENT part - 0 (no?, title?, (%s.zz;)*, chapter+) >
<!ELEMENT chapter - 0 (no?, %m.sec;) >
<!ELEMENT section - 0 (no?, title?, (%s.zz;)*, subsect1*) >
<!ELEMENT subsect1 - 0 (no?, title?, (%s.zz;)*, subsect2*) >
<!ELEMENT subsect2 - 0 (no?, title?, (%s.zz;)*, subsect3*) >
<!ELEMENT subsect3 - 0 (no?, title?, (%s.zz;)*, subsect4*) >
<!ELEMENT subsect4 - 0 (no?, title?, (%s.zz;)*, subsect5*) >
<!ELEMENT subsect5 - 0 (no?, title?, (%s.zz;)*, subsect6*) >
<!ELEMENT subsect6 - 0 (no?, title?, (%s.zz;)* >
<!ELEMENT no - 0 (#PCDATA) >

<!-- ++++++ -->
<!-- Section Subelements -->
<!-- ++++++ -->

<!ELEMENT p - 0 (#PCDATA|(%p.zz.ph;)|(%p.zz;))* >

<!-- ++++++ -->
<!-- Paragraph Subelements -->
<!-- ++++++ -->

<!ELEMENT bq - - %m.pseq; >
<!ELEMENT indaddr - 0 %m.name; -- individual address -->
<!ELEMENT orgaddr - 0 %m.org; -- organization address -->
<!ELEMENT artwork - 0 EMPTY >

<!ELEMENT lit - - RCDATA >

<!ELEMENT (%p.lst.d;) - - (head?, item)* >
<!ELEMENT item - 0 %m.pseq; >

<!ELEMENT deflist - - ((head, ddhd)?, term, dd)* >
<!ELEMENT (term|head|ddhd) - 0 %m.ph; >
<!ELEMENT dd - 0 %m.pseq; >

<!ELEMENT biblist - 0 (head?, citation)* >
<!ELEMENT citation - 0 %m.bib; >
<!ELEMENT (othinfo|subject|sertitle) - 0 %m.ph; >

<!ELEMENT location - 0 %m.addr; >
<!ELEMENT (msn|pages) - 0 (#PCDATA) >
<!ELEMENT keyword - 0 (#PCDATA) >
<!ELEMENT keyphras - 0 (#PCDATA) >

```

```

<!ELEMENT indxflag          - O  EMPTY                                >

<!-- ++++++----->
<!--      Poetry                                -->
<!-- ++++++----->

<!ELEMENT poem              - O  %m.poem;                                >
<!ELEMENT stanza            - O  (poemline)+                            >
<!ELEMENT poemline          - O  (#PCDATA|cline|%p.em.ph;)*            >
<!ELEMENT cline              - O  (#PCDATA|%p.em.ph;)*                  >

.

<!-- ++++++----->
<!--      Phrases                                -->
<!-- ++++++----->

<!ELEMENT q                  - -  %m.ph;                                >
<!ELEMENT (%p.em.ph;)        - -  %m.ph;                                >
<!ELEMENT (%p.rf.ph;)        - -  (#PCDATA)                             >

<!-- ++++++----->
<!--      For HyTime Links                                -->
<!-- ++++++----->

<!ELEMENT nameloc            - O  (nmlist*) -- assigns a local ID to    -->
                                   named objects                        -->
<!ELEMENT nmlist             - O  (#PCDATA) -- list of local ID or entity -->
                                   names                                -->

<!-- ++++++----->
<!--      Floating Elements                                -->
<!-- ++++++----->

<!ELEMENT figgrp             - -  (title? & fig*)                        >
<!ELEMENT fig                 - O  %m.fig;                                >
<!ELEMENT footnote           - -  (no?, %m.pseq;)                      -(%i.float;) >
<!ELEMENT note                - -  (no?, %m.pseq;)                      >

<!-- ++++++----->
<!--      Tables                                -->
<!-- ++++++----->

<!ELEMENT table              - -  (no?, title?, tbody)                -(%i.float;) >
<!ELEMENT tbody             - O  (head*, tsubhead*, row*)              >
<!ELEMENT row                - O  (tstub?, cell*)                      >
<!ELEMENT tsubhead           - O  %m.ph;                                >
<!ELEMENT (tstub|cell)       - O  %m.pseq;                              >

```

```

<!-- ++++++----- -->
<!--      Mathematics                               -->
<!-- ++++++----- -->

<!ENTITY % maths PUBLIC "ISO 12083:1994//DTD Mathematics//EN"
%maths;

<!-- Remove these comments if the formulas follow a NOTATION rather than SGML.
<!ELEMENT dformgrp          - O  (dformula)+
<!ELEMENT (formula|dformula) - - CDATA
-->

<!-- ===== -->
<!--      APPENDIX ELEMENTS                               -->
<!-- ===== -->

<!ELEMENT appmat            - O  (appendix+)
<!ELEMENT appendix         - O  (no?, %m.sec; )

<!-- ===== -->
<!--      BACK MATTER ELEMENTS                               -->
<!-- ===== -->

<!-- The following declaration is specific to Articles
<!ELEMENT back              - O  (%bmsec.d;|biblist)*
<!--

<!ELEMENT (%bmsec.d;)      - O  %m.sec;

<!-- ===== -->
<!--      ATTRIBUTE DEFINITION LISTS                               -->
<!-- ===== -->

<!-- HyTime attributes were added to all references,
the citation and doclink elements
-->

<!-- The SGML Document Access attributes for Braille, large print
and voice synthesis markup have been added to the attributes already
declared in this DTD in the first section following, and then for
all elements which have no attributes except for the SDA set.
-->

<!--      ELEMENT      NAME      VALUE      DEFAULT      -->
<!ATTLIST abstract    %a.id;
%SDAPREF;
" <h1>Abstract</h1>"
>

<!ATTLIST ack          %a.id;
%SDAPREF;
" <h1>Acknowledgements</h1>"
>

<!ATTLIST acqno
%SDAFORM;
"para"
%SDAPREF;
"Acquisition/order number: "
>

<!ATTLIST aff          %a.id;
>

```

```

<!ATTLIST appendix  %a.id;
    %SDAPREF;                                "<h1>Appendix</h1>"          >

<!ATTLIST artwork   %a.id;
    %a.sizes;
    name             ENTITY                  #IMPLIED
    %SDAFORM;        "fig #attrib ID"        >

<!ATTLIST author    %au.rid;
    %SDAFORM;        "au"                    >

<!ATTLIST biblist    file             ENTITY  #IMPLIED
    %SDAFORM;        "list"
    %SDAPREF;        "Bibliography"          >

<!ATTLIST chapter    %a.id;
    SDABDY           NAMES             #FIXED  "title h1"
    SDAPART          NAMES             #FIXED  "title h2"          >

<!ATTLIST citation   id              ID       #REQUIRED
    HyTime           NAME              #FIXED  bibloc
    %SDARULE;        "title it
    author para
    corpauth para
    sertitle it"      >

<!ATTLIST corpauth   %a.id;
    %SDAFORM;        "au"                    >

<!ATTLIST country    cnycode          NAME     #IMPLIED
    -- name should follow ISO 3166 -->

<!ATTLIST date       type             %d.types;
    %SDAPREF;        "Date:"              >

<!ATTLIST dd         %a.id;
    %SDAFORM;        "para"                >

<!ATTLIST deflist     %a.id;
    %SDAFORM;        "list"
    %SDAPREF;        "<?SDATrans>Definitions "  >

<!ATTLIST %doctype;  %a.id;
    HyTime           NAME              #FIXED  HyDoc
    %SDAFORM;        "article"          >

<!ATTLIST fig        %a.id;
    %a.sizes;
    name             ENTITY                  #IMPLIED
    scale            NUMBER                  100
    %SDAPREF;        "<?SDATrans>Figure: "      >

<!ATTLIST figgrp     %a.id;
    %SDARULE;        "title para"          >

```

```

<!ATTLIST footnote %a.id;
    %SDAFORM;                                "fn"                                >

<!ATTLIST indxflag  ref1      CDATA      #IMPLIED
                    ref2      CDATA      #IMPLIED
                    ref3      CDATA      #IMPLIED
                    ref4      CDATA      #IMPLIED                                >

<!ATTLIST item      %a.id;
    %SDAFORM;                                "litem"                                >

<!ATTLIST nameloc   HyTime     NAME       nameloc
                    id         ID        #REQUIRED
                    -- multloc attributes --
                    ordering    (ordered|noorder)
                                   noorder
                    -- is ordering of locations significant? --
                    set         (set|notset) notset
                    -- make multiple a set by ignoring duplicates --
                    aggloc      (aggloc|agglink|nagg)
                                   nagg
                    -- are multiple locations an aggregate? --
                    %SDAPREF;      "<?SDATRANS>Nameloc:"      >

<!ATTLIST nmlist    HyTime     NAME       nmlist
                    nametype   (entity|element)
                                   entity
                    -- entity names or IDs of elements --
                    obnames     (obnames|nobnames)
                                   nobnames
                    -- objects treated as names? --
                    docorsub    ENTITY    #IMPLIED
                    dtdorlpd    NAMES     #IMPLIED
                    %SDAPREF;      "<?SDATRANS>Namelist:"      >

<!ATTLIST note      %a.id;
    %SDAFORM;                                "note"                                >

<!ATTLIST p          %a.id;
                    alphabet    %a.types;
    %SDAFORM;                                "para"                                >

<!ATTLIST part       %a.id;
    %SDARULE;                                "chapter #use SDAPART"      >

<!ATTLIST %p.em.ph; type %e.types;
    %SDARULE;                                "[emph type=1] b
                                [emph type=2] it
                                [emph type=(3|4|5|6)] other" >

```

```

<!ATTLIST %p.lst.d; %a.id;
    type                %l.types;
    %SDAFORM;            "list"
    %SDAPREF;            "[list type=1]#set (item,#count(item,1))
                        [list type=2]#set (item,#count(item,A)
                        [list type=3]#set (item,#count(item,I))
                        [list type=4]#set (item,#count(item,'* '))
                        [list type=5]#set (item,#count(item,'- '))" >

<!ATTLIST (%p.rf.ph;) %a.rid;
    %a.id;
    HyTime NAME         #FIXED clink
    HyNames CDATA       #FIXED "rid linkend"
    %SDAFORM;           "xref #attrib IDREF" >

<!ATTLIST %p.tbl; %a.id;
    %SDAFORM;            "table"
    %SDARULE;            "title h3
                        head hdcell"
    %SDAPREF;            "<?SDATRANG>" >

<!ATTLIST q %a.id;
    alphabet %a.types;
    %SDAPREF; " "
    %SDASUFF; " " >

<!ATTLIST section %a.id;
    SDABDY NAMES #FIXED "title h2"
    SDAPART NAMES #FIXED "title h3" >

<!ATTLIST subsect1 %a.id;
    SDABDY NAMES #FIXED "title h3"
    SDAPART NAMES #FIXED "title h4" >

<!ATTLIST subsect2 %a.id;
    SDABDY NAMES #FIXED "title h4"
    SDAPART NAMES #FIXED "title h5" >

<!ATTLIST subsect3 %a.id;
    SDABDY NAMES #FIXED "title h5"
    SDAPART NAMES #FIXED "title h6" >

<!ATTLIST subsect4 %a.id;
    SDABDY NAMES #FIXED "title h6"
    SDAPART NAMES #FIXED "title b" >

<!ATTLIST (subsect5|subsect6)
    %a.id;
    SDABDY NAMES #FIXED "title b"
    SDAPART NAMES #FIXED "title b" >

<!ATTLIST term %a.id;
    %SDAFORM;      "term" >

```

```

<!ATTLIST title      alphabet      %a.types;
                  purpose      (normal|run)      normal
                  %SDAFORM;                  "ti"                  >

<!-- ===== -->
<!--      SDA ATTRIBUTES      -->
<!-- ===== -->

<!-- The following declarations support elements whose only attributes are
SDA attributes:      -->

<!ATTLIST avail
      %SDAFORM;                  "para"
      %SDAPREF;                  "Available from: "      >

<!ATTLIST body
      %SDARULE;                  "chapter #use SDABDY "      >

<!ATTLIST bq
      %SDAFORM;                  "bq"                  >

<!ATTLIST cell
      %SDAFORM;                  "cell"                  >

<!ATTLIST cpyrtclr
      %SDAFORM;                  "para"
      %SDAPREF;                  "Copyright clearance center: ">

<!ATTLIST coden
      %SDAFORM;                  "para"
      %SDAPREF;                  "CODEN: "                  >

<!ATTLIST contract
      %SDAFORM;                  "para"
      %SDAPREF;                  "Contract or grant number: " >

<!ATTLIST sponsor
      %SDAFORM;                  "para"
      %SDAPREF;                  "(Contract or grant) sponsor:">

<!ATTLIST confgrp
      %SDAFORM;                  "para"
      %SDAPREF;                  "Conference group: "      >

<!ATTLIST confname
      %SDAFORM;                  "para"
      %SDAPREF;                  "Conference name: "      >

<!ATTLIST cpyrt
      %SDAFORM;                  "para"
      %SDAPREF;                  "<?SDATRANS>Copyright notice:">

<!ATTLIST ddhd
      %SDAFORM;                  "lhead"                  >

```

<!ATTLIST ded	%SDAPREF;	" Dedication "	>
<!ATTLIST email	%SDAFORM;	"para"	
%SDAPREF;	"Electronic address: "		>
<!ATTLIST extent	%SDAFORM;	"para"	
%SDAPREF;	"Number of pages: "		>
<!ATTLIST fax	%SDAFORM;	"para"	
%SDAPREF;	"FAX number: "		>
<!ATTLIST head	%SDAFORM;	"lhead"	>
<!ATTLIST (indaddr orgaddr)	%SDAFORM;	"para"	
%SDAPREF;	"Address: "		>
<!ATTLIST issn	%SDAFORM;	"para"	
%SDAPREF;	"ISSN: "		>
<!ATTLIST (keyphras keyword)	%SDAFORM;	"term"	>
<!ATTLIST lit	%SDAFORM;	"lit"	>
<!ATTLIST location	%SDAFORM;	"para"	
%SDAPREF;	"Location: "		>
<!ATTLIST othinfo	%SDAFORM;	"para"	>
<!ATTLIST acidfree	%SDAFORM;	"para"	
%SDAPREF;	"Acid free paper indicator: "		>
<!ATTLIST phone	%SDAFORM;	"para"	
%SDAPREF;	"Phone: "		>
<!ATTLIST pubid	%SDAFORM;	"para"	
%SDAPREF;	"Publisher's ID number: "		>
<!ATTLIST pubname	%SDAFORM;	"para"	
%SDAPREF;	"Publisher: "		>

```

<!-- ATTTLIST pages
      %SDAFORM;
      "pp"
      >

<!-- ATTTLIST price
      %SDAFORM;
      %SDAPREF;
      "para"
      "Price: "
      >

<!-- ATTTLIST row
      %SDAFORM;
      "row"
      >

<!-- ATTTLIST reprint
      %SDAFORM;
      %SDAPREF;
      "para"
      "Reprint source: "
      >

<!-- ATTTLIST san
      %SDAFORM;
      %SDAPREF;
      "para"
      "Standard address number: "
      >

<!-- ATTTLIST subtitle
      %SDAFORM;
      "h1"
      >

<!-- ATTTLIST subject
      %SDAFORM;
      "it"
      >

<!-- ATTTLIST supmatl
      %SDAFORM;
      %SDAPREF;
      "para"
      "Supporting material: "
      >

<!-- ATTTLIST sertitle
      %SDAFORM;
      "ti"
      >

<!-- ATTTLIST tbody
      %SDAFORM;
      "tbody"
      >

<!-- ATTTLIST tstub
      %SDAFORM;
      "stubcell"
      >

<!-- ATTTLIST tsubhead
      %SDAFORM;
      "hdcell"
      >

<!-- Remove this comment around the next three declarations if formulas
      follow a notation rather than SGML.
<!-- ATTTLIST formula
      %a.id;
      notation NOTATION (tex)
      alphabet %a.types;
      %SDAPREF;
      %SDASUSP;
      #IMPLIED
      "<?SDATRANS>Inline formula: "
      "SUSPEND"
      >

```

```

<!ATTLIST dformula
    %a.id;
    alphabet %a.types;
    notation NOTATION (tex)          #IMPLIED
    num      CDATA                    #IMPLIED
    align    (left|center|right)      center
    %SDAPREF;                          "<?SDATRANS>Display formula: "
    %SDASUSP;                          "SUSPEND"          >

<!ATTLIST dformgrp
    %a.id;
    num      CDATA                    #IMPLIED
    align    (left|center|right)      center
    %SDAPREF;                          "<?SDATRANS>Display formula group: ">

-->

```

8 The Serial DTD

```

<!-- This is the ISO12083:1994 document type definition for Serials.      -->
<!-- Copyright: (C) International Organization for Standardization 1994.
Permission to copy in any form is granted for use with conforming SGML
systems and applications as defined in ISO 8879:1986, provided this
notice is included in all copies.                                          -->
<!-- ===== -->
<!-- PUBLIC DOCUMENT TYPE DEFINITION SUBSET                               -->
<!-- ===== -->

<!-- Typical invocation:
<!DOCTYPE serial PUBLIC "ISO 12083:1994//DTD Serial//EN"
[<!ENTITY % ISOnum PUBLIC "ISO 8879:1986//ENTITIES Numeric and
    Special Graphic//EN"
    >
    <!ENTITY % ISOpub PUBLIC "ISO 8879:1986//ENTITIES
    Publishing//EN"
    >
    <!ENTITY % ISotech PUBLIC "ISO 8879:1986//ENTITIES
    General Technical//EN"
    >
    <!ENTITY % ISodia PUBLIC "ISO 8879:1986//ENTITIES
    Diacritical Marks//EN"
    >
    <!ENTITY % ISolat1 PUBLIC "ISO 8879:1986//ENTITIES
    Added Latin 1//EN"
    >
    <!ENTITY % ISolat2 PUBLIC "ISO 8879:1986//ENTITIES
    Added Latin 2//EN"
    >
    <!ENTITY % ISOamso PUBLIC "ISO 8879:1986//ENTITIES
    Added Math Symbols: Ordinary//EN"
    >
    <!ENTITY % ISOgrk1 PUBLIC "ISO 8879:1986//ENTITIES
    Greek Letters//EN"
    >
    <!ENTITY % ISOgrk3 PUBLIC "ISO 8879:1986//ENTITIES
    Greek Symbols//EN"
    >
    %ISOnum;
    %ISOpub;
    %ISotech;
    %ISodia;
    %ISolat1;

```

```

%ISolat2;
%ISOamso;
%ISOgrk1;
%ISOgrk3;
<!ENTITY % ereview PUBLIC "-//USA-DOD//DTD
    SUP MIL-M-28001 EREVIEW REV B//EN"
    >
%ereview;
]>
-->

<!-- NOTES: 1. ISO/IEC TR 9573 Parts 12-16 are currently under review and will
    contain complete special character entity sets.
    2. MIL-M-28001 EREVIEW are the CALS facilities for electronic
    review.
-->

<!-- This is the document type declaration subset for a Serial. Articles will
be embedded within this document type.
-->

<!-- Entity naming conventions are the same as for Books and Article
-->

<!ENTITY % serial "serial" -- default document type generic identifier
-->

<!-- ++++++
<!-- Specialized Elements
<!-- ++++++
-->

<!ENTITY % bmsec.i "glossary|index" -- indexes and glossary
-->
<!ENTITY % spub "reprint|cpyrt|date|pubname|location|confgrp|avail|
    issueid|coden|acqno|acidfree|price|extent"
    -- serial pubfront
-->
<!ENTITY % spub.ph "lccardno|reportid|edition|volid|catalog|package|pubid"
    -- serial publication related front matter material
-->
<!ENTITY % i.sflt "aseqntl|advert" -- serial floats
-->

<!-- ++++++
<!-- Models
<!-- ++++++
-->

<!ENTITY % m.adv "EMPTY" -- default advertisement content
-->
<!ENTITY % m.toc "EMPTY" -- table of contents model
-->

<!-- Article declaration subset is included here.
-->
<!ENTITY % serart PUBLIC "ISO 12083:1994//DTD Article//EN"
    >
%serart;

<!-- end article declaration subset
-->

<!ENTITY % m.idx " (%m.sec;|((indxname|indxsubj)*,pages*))" -- model for
    indexes and glossary
-->

```

```

<!-- ===== -->
<!-- THE DOCUMENT STRUCTURE -->
<!-- ===== -->

<!-- ELEMENT MIN CONTENT (EXCEPTIONS) -->
<!-- ELEMENT (%serial;) - - (serfront, serbody, serback?) -->
<!-- +(%i.sflt;|%i.float;)>

<!-- ===== -->
<!-- FRONT MATTER ELEMENTS -->
<!-- ===== -->

<!-- ELEMENT serfront 0 0 (title, stitle?, alttitle?, serpubfr?,
toc?)>

<!-- ===== -->
<!-- Title Group -->
<!-- ===== -->

<!-- ELEMENT (stitle|alttitle) 0 0 %m.ph; >

<!-- ===== -->
<!-- Serial Publisher's Front Matter -->
<!-- ===== -->

<!-- ELEMENT serpubfr - 0 ((%spub;)|(%spub.ph;))* >
<!-- ELEMENT (%spub.ph;) - 0 (#PCDATA) >
<!-- ELEMENT issueid - 0 (issueno, issuept?, supplid?) >
<!-- ELEMENT (issueno|issuept|supplid) - 0 (#PCDATA) >

<!-- ===== -->
<!-- Table of Contents -->
<!-- ===== -->

<!-- ELEMENT toc - 0 %m.toc; >

<!-- ===== -->
<!-- BODY ELEMENTS -->
<!-- ===== -->

<!-- ===== -->
<!-- Body Structure -->
<!-- ===== -->

<!-- ELEMENT serbody 0 0 (serpart+|sersec+) >
<!-- ELEMENT serpart - 0 (title?, (%s.zz;|sersec|article)*) -->
-- Department or Special Features -->
<!-- ELEMENT sersec - 0 (title?, (%s.zz;|article)*) -->
-- Book Reviews, Engineering Notes, etc. -->

```

```

<!-- ++++++ Floating elements ++++++ -->
<!-- Floating elements -->
<!-- ++++++ -->

<!ELEMENT advert          - O  %m.adv;          >
<!ELEMENT aseqntl         - -  %m.sec;          >
      -- Asequential elements are intended to be used as filler items -->

<!-- ===== -->
<!-- BACK MATTER ELEMENTS -->
<!-- ===== -->

<!ELEMENT serback         - O  ((%bmsec.d;)|(%bmsec.i;))*  >
<!ELEMENT (%bmsec.i;)     - O  %m.idx;                  >
<!ELEMENT (indxname|indxsubj)
      - O  (#PCDATA)                                     >

<!-- ===== -->
<!-- ATTRIBUTE DEFINITION LISTS -->
<!-- ===== -->
<!-- The SGML Document Access attributes for Braille, large print
and voice synthesis markup have been added. -->

<!-- ELEMENT NAME VALUE DEFAULT -->

<!ATTLIST advert      %a.id;
                    %a.sizes;
                    name ENTITY #IMPLIED
                    %SDAFORM;    "fig" >

<!ATTLIST catalog      %SDAFORM;
                    %SDAPREF;    "para"
                                "<?SDATRANS>Cataloguing
                                in publication information:" >

<!ATTLIST %serial;     %a.id;
                    %SDAFORM;    "serial" >

<!ATTLIST edition      %SDAFORM;
                    %SDAPREF;    "para"
                                "<?SDATRANS>Edition:" >

<!ATTLIST glossary     %a.id;
                    %SDAPREF;    "<h1>Glossary</h1>" >

<!ATTLIST index        %a.id;
                    %SDAPREF;    "<h1>Index</h1>" >

<!ATTLIST (indxname|indxsubj)
                    %SDAFORM;    "term" >

<!ATTLIST lccardno     %SDAFORM;
                    %SDAPREF;    "para"
                                "LC card number:" >

```

```

<!ATTLIST package    %SDAFORM;                "para"
                    %SDAPREF;                "Packaging method:"    >

<!ATTLIST reportid   %SDAFORM;                "para"
                    %SDAPREF;                "Report identifier:"    >

<!ATTLIST (stitle|alttitle)
                    alphabet    %a.types;
                    %SDAFORM;    "ti"                >

<!ATTLIST toc        %SDAFORM;                "list"
                    %SDAPREF;                "<?SDATRANS>Contents"    >

<!ATTLIST valid      %SDAFORM;                "para"
                    %SDAPREF;                "Volume identifier:"    >

```

9 The Mathematics DTD

```

<!-- This is the ISO12083:1994 document type definition for Mathematics -->

```

```

<!-- Copyright: (C) International Organization for Standardization 1994.
Permission to copy in any form is granted for use with conforming SGML
systems and applications as defined in ISO 8879:1986, provided this notice
is included in all copies. -->

```

```

<!-- ===== -->
<!-- PUBLIC DOCUMENT TYPE DEFINITION SUBSET -->
<!-- ===== -->

```

```

<!--
This DTD is included by the Book and Article DTDs of ISO12083:1994.
As it is a separate entity it may also be included by other DTDs.

```

Since there is no consensus on how to describe the semantics of formulas, it only describes their presentational or visual structure. Since, however, there is a strong need for such description (especially within the print-disabled community), it is recommended that the following declaration be added where there is a requirement for a consistent, standardized mechanism to carry semantic meanings for the SGML elements declared throughout this part of this International Standard:

```

<!ENTITY % SDAMAP "SDAMAP NAME #IMPLIED" >

```

```

and that the attribute represented by %SDAMAP; be made available for
all elements which may require a semantic association, or, in the simpler
case, be added to all elements in this DTD. -->

```

```

<!-- ===== -->
<!-- Parameter entities describing the possible contents of formulas. -->
<!-- ===== -->

<!ENTITY % p.trans "bold|italic|sansser|typewrit|smallcap|roman"
           -- character transformations -->
<!ENTITY % m.math "fraction|subform|sup|inf|top|bottom|middle|fence|mark|
           post|box|overline|undrline|radical|array|hspace|vspace|break|markref|
           #PCDATA" -- mathematical formula elements -->

<!-- ===== -->
<!-- Accessible Document and other Parameter Entities
           If this DTD is not imbedded by a ISO12083:1994 Book or Article,
           the comment delimiters should be removed. -->
<!-- ===== -->

<!--ENTITY % SDAFORM      "SDAFORM   CDATA   #FIXED" -->
<!--ENTITY % SDARULE      "SDARULE   CDATA   #FIXED" -->
<!--ENTITY % SDAPREF      "SDAPREF   CDATA   #FIXED" -->
<!--ENTITY % SDASUFF      "SDASUFF   CDATA   #FIXED" -->
<!--ENTITY % SDASUSP      "SDASUSP   NAME    #FIXED" -->

<!-- ===== -->
<!-- This entity is for an attribute to indicate which alphabet is
           used in the element (formula, dformula). This may be changed to
           a notation attribute, where the notation could describe a
           keyboard mapping. Modify the set as necessary.
           If this DTD is not imbedded by a ISO12083:1994 Book or Article,
           the comment delimiters should be removed. -->
<!-- ===== -->

<!--ENTITY % a.types "(latin|greek|cyrillic|hebrew|kanji) latin" -->

<!-- ===== -->
<!-- Character transformations -->
<!-- ===== -->

<!-- ELEMENT          MIN  CONTENT          EXPLANATIONS -->
<!ELEMENT bold        - -  (%p.trans;|#PCDATA)* -- bold -->
<!ELEMENT italic      - -  (%p.trans;|#PCDATA)* -- italic -->
<!ELEMENT sansser     - -  (%p.trans;|#PCDATA)* -- sans serif -->
<!ELEMENT typewrit    - -  (%p.trans;|#PCDATA)* -- typewriter -->
<!ELEMENT smallcap    - -  (%p.trans;|#PCDATA)* -- small caps -->
<!ELEMENT roman       - -  (%p.trans;|#PCDATA)* -- roman -->

```

```

<!-- ===== -->
<!-- Fractions -->
<!-- ===== -->

<!-- ELEMENT MIN CONTENT EXPLANATIONS -->
<!ELEMENT fraction - - (num, den) -- fraction -->
<!ELEMENT num - - (%p.trans;|%m.math;)* -- numerator -->
<!ELEMENT den - - (%p.trans;|%m.math;)* -- denominator -->
<!-- ELEMENT NAME VALUE DEFAULT -->
<!ATTLIST fraction shape (built|case) #IMPLIED
align (left|center|right)
center
style (single|double|triple|dash|dot|bold|blank|none)
single
>

<!-- ===== -->
<!-- Superiors, inferiors, accents, over and under -->
<!-- ===== -->

<!-- ELEMENT MIN CONTENT EXPLANATIONS -->
<!ELEMENT sup - - (%p.trans;|%m.math;)* -- superior -->
<!ELEMENT inf - - (%p.trans;|%m.math;)* -- inferior -->
<!-- ELEMENT NAME VALUE DEFAULT -->
<!ATTLIST sup location (pre|post) post
arrange (compact|stagger)
compact
>
<!ATTLIST inf location (pre|post) post
arrange (compact|stagger) compact
>

<!-- ===== -->
<!-- Embellishments -->
<!-- ===== -->

<!-- ELEMENT MIN CONTENT EXPLANATIONS -->
<!ELEMENT top - - (%p.trans;|%m.math;)*
-- top embellishment -->
<!ELEMENT middle - - (%p.trans;|%m.math;)*
-- middle, or "through" -->
<!ELEMENT bottom - - (%p.trans;|%m.math;)*
-- bottom embellishment -->
<!-- ELEMENT NAME VALUE DEFAULT -->
<!ATTLIST top align (left|center|right)
center
sizeid ID #IMPLIED
-- to pass on the height -->
<!ATTLIST middle align (left|center|right)
center
sizeid ID #IMPLIED
-- to pass on the height -->
<!ATTLIST bottom align (left|center|right)
center
sizeid ID #IMPLIED
-- to pass on the height -->

```

```

<!-- The subform element is defined later -->

<!-- ===== -->
<!-- Fences, boxes, overlines and underlines -->
<!-- ===== -->

<!-- ELEMENT MIN CONTENT EXPLANATIONS -->
<!-- ELEMENT mark - O EMPTY >
<!-- ELEMENT fence - - (%p.trans;|%m.math;)* -- fence -->
<!-- ELEMENT post - O EMPTY -- post -->
<!-- ELEMENT box - - (%p.trans;|%m.math;)* -- box -->
<!-- ELEMENT overline - - (%p.trans;|%m.math;)* -- overline -->
<!-- ELEMENT underline - - (%p.trans;|%m.math;)* -- underline -->
<!-- ELEMENT NAME VALUE DEFAULT -->
<!-- ATTLIST mark id ID #REQUIRED >
<!-- ATTLIST fence lpost CDATA "|" -- left post --
rpost CDATA "|" -- right post --
style (single|double|triple|dash|dot|bold|blank|none)
single
sizeid ID #IMPLIED
-- to pass on the height --
sizeref IDREF #IMPLIED
-- to pick up a height -->
<!-- ATTLIST post post CDATA "|"
style (single|double|triple|dash|dot|bold|blank|none)
single
sizeid ID #IMPLIED
-- to pass on the height --
sizeref IDREF #IMPLIED
-- to pick up a height -->
<!-- ATTLIST box style (single|double|triple|dash|dot|bold|blank|none)
single >
<!-- ATTLIST overline type CDATA "-" -- embellishment type --
style (single|double|triple|dash|dot|bold|blank|none)
single
start IDREF #IMPLIED
end IDREF #IMPLIED >
<!-- ATTLIST underline type CDATA "_" -- embellishment type --
style (single|double|triple|dash|dot|bold|blank|none)
single
start IDREF #IMPLIED
end IDREF #IMPLIED >

<!-- ===== -->
<!-- Labelled arrows -->
<!-- ===== -->

<!-- ELEMENT MIN CONTENT EXPLANATIONS -->
<!-- ELEMENT subform - - (%p.trans;|%m.math;)* -- base element -->

```

```

<!--      ELEMENT      NAME      VALUE      DEFAULT      -->
<!ATTLIST subform      sizeid      ID      #IMPLIED
-- to pass on a width, or
a height      --
      sizeref      IDREF      #IMPLIED
-- to pick up a width      -->

<!-- ===== -->
<!--      Roots      -->
<!-- ===== -->

<!--      ELEMENT      MIN  CONTENT      EXPLANATIONS      -->
<!ELEMENT radical      - - (radix?, radicand) -- root or radical -->
<!ELEMENT radix      - - (%p.trans;|%m.math;)* -- radix      -->
<!ELEMENT radicand      0 0 (%p.trans;|%m.math;)* -- radicand      -->

<!-- ===== -->
<!--      Arrays      -->
<!-- ===== -->

<!--      ELEMENT      MIN  CONTENT      EXPLANATIONS      -->
<!ELEMENT array      - - (arrayrow+|arraycol+) -- array      -->
<!ELEMENT arrayrow      - 0 (arraycel+)      -- array row      -->
<!ELEMENT arraycol      - 0 (arraycel+)      -- array column      -->
<!ELEMENT arraycel      - 0 (%p.trans;|%m.math;)* -- array cell      -->

<!--      ELEMENT      NAME      VALUE      DEFAULT      -->
<!ATTLIST array      rowalign      NMTOKENS      #IMPLIED -- row alignment --
      colalign      NMTOKENS      #IMPLIED -- column
alignment --
      rowsep      NMTOKENS      #IMPLIED -- row separators --
      colsep      NMTOKENS      #IMPLIED -- column
separators -->

<!-- ===== -->
<!--      Spacing      -->
<!-- ===== -->

<!--      ELEMENT      MIN  CONTENT      EXPLANATIONS      -->
<!ELEMENT hspace      - 0 EMPTY      -- horizontal spacing -->
<!ELEMENT vspace      - 0 EMPTY      -- vertical spacing -->
<!ELEMENT break      - 0 EMPTY      -- turn line, break -->
<!ELEMENT markref      - 0 EMPTY      -- hmark reference -->

<!--      ELEMENT      NAME      VALUE      DEFAULT      -->
<!ATTLIST hspace      space      CDATA      "1 mm"
-- units as required -->
<!ATTLIST vspace      space      CDATA      "1 mm"
-- units as required -->
<!ATTLIST markref      refid      IDREF      #REQUIRED
direct      (hor|ver)      hor
-- horizontal or vertical -->

```

```

<!-- ===== -->
<!--   Formula elements                               -->
<!-- ===== -->

<!--      ELEMENT          MIN  CONTENT          EXPLANATIONS      -->
<!ELEMENT formula         - -  (%p.trans;|%m.math;)*              -- in-line formula -->
<!ELEMENT dformula        - -  (%p.trans;|%m.math;)*              -- display formula -->
<!ELEMENT dformgrp        - -  (formula|dformula)+                -- display formula group -->

<!--      ELEMENT  NAME      VALUE          DEFAULT          -->
<!ATTLIST formula  id        ID              #IMPLIED
               alphabet  %a.types;
               %SDAPREF;    "<?SDATRANS>Inline formula"
               %SDASUSP;    "SUSPEND"
<!ATTLIST dformula id        ID              #IMPLIED
               num        CDATA              #IMPLIED
               align      (left|center|right)
                           center
               alphabet  %a.types;
               %SDAPREF;    "<?SDATRANS>Display formula"
               %SDASUSP;    "SUSPEND"
<!ATTLIST dformgrp id        ID              #IMPLIED
               num        CDATA              #IMPLIED
               align      (left|center|right)
                           center
               %SDAPREF;    "<?SDATRANS>Display formula group"

```


Annex A

(informative)

Comments on the DTDs

A.1 Design philosophy

The Document Type Definitions comprising this International Standard are based on ANSI Z39.59-1988, Electronic Manuscript Preparation and Markup originally created by the Association of American Publishers (AAP). The structure of the original DTDs permit easy modification and extension. The present DTDs continue this philosophy.

ANSI Z39.59-1988 was designed before the SGML standard (ISO 8879:1986) was available. This International Standard draws on the experience gained with SGML since the completion of ANSI Z39.59-1988. All ambiguities, redundancies and formatting specific aspects were removed from ANSI Z39.59-1988. The short reference syntax is deprecated by this International Standard, but short references can be added by current users. The names of the generic identifiers were made longer and more meaningful. Five major groups influenced the modifications of ANSI Z39.59-1988:

- a. The European Workgroup on SGML. The work of this group of European publishers was published in 1991, in the form of the Majour DTD for article headers. Elements and attributes which were required to make ANSI Z39.59-1988 compatible with Majour were added.
- b. The European Physical Society. This professional organization submitted a set of comments which were all applied. The Society endorses the use of this International Standard by its members.
- c. International Committee for Accessible Document Design (ICADD). These comments enable easy translation of SGML coded documents using ISO 12083 into Braille, large type and computer voice. ICADD endorses the use of this International Standard. (See Annex A.8)
- d. ISO 10744:1992, HyTime. Several comments on the draft of this International Standard mentioned the lack of facilities for hypertext. Documents conforming to this International Standard are minimal hyperlinking HyTime documents.
- e. The AAP Math Update Committee. The objective of this committee was to make a harmonized DTD for mathematics that would replace the mathematics DTD in ISO/IEC TR 9573:1988, the AAP mathematics DTD and the DTD in use by the Euromath project. Several comments on the draft of this International Standard proposed that this International Standard adopt the work of this committee.

A.2 Description of the structure

A.2.1 Overall structure of Books and Articles

Books and **Articles** consist of front matter (**front**), followed by the main body (**body**), followed by an appendix matter part (**appmat**) (optional), followed by back matter (**back**) (optional). Both the start- and the end-tag of the document type element are required. The start- and the end-tag of the front matter and main body may be omitted. The end-tags of the appendix matter and back matter may be omitted. "Floating elements" (**%i.float;**) (see figure A.33, figure groups, footnotes and notes) can be interspersed anywhere in the document. The overall structure of Books and Articles is shown in figures A.1 and A.2.

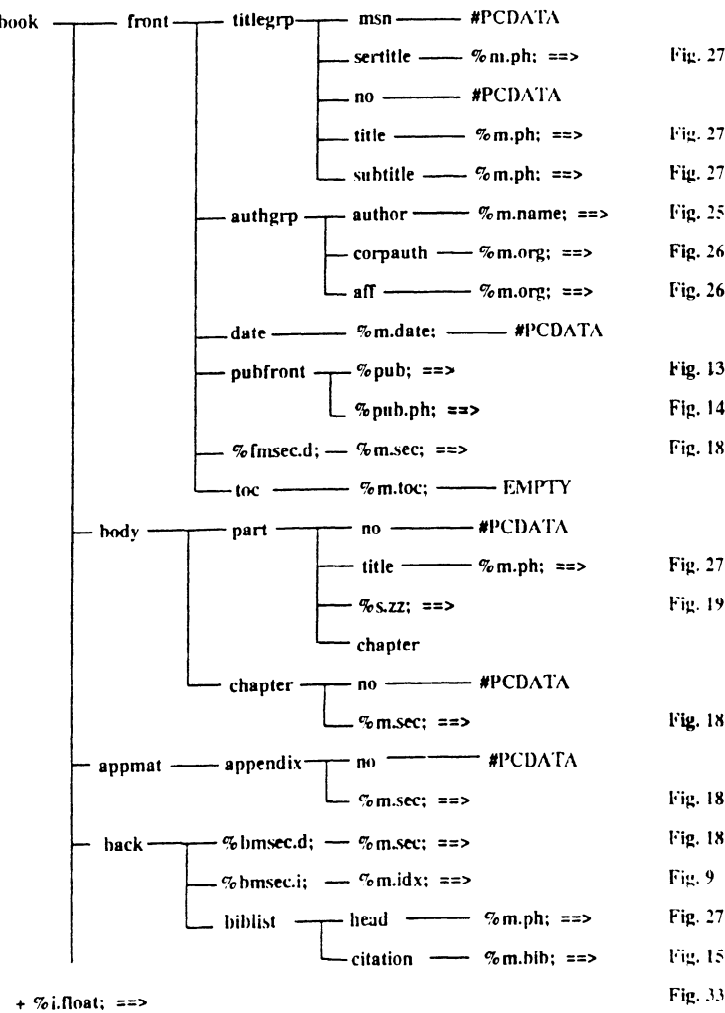


Figure A.1 Overall structure of Books

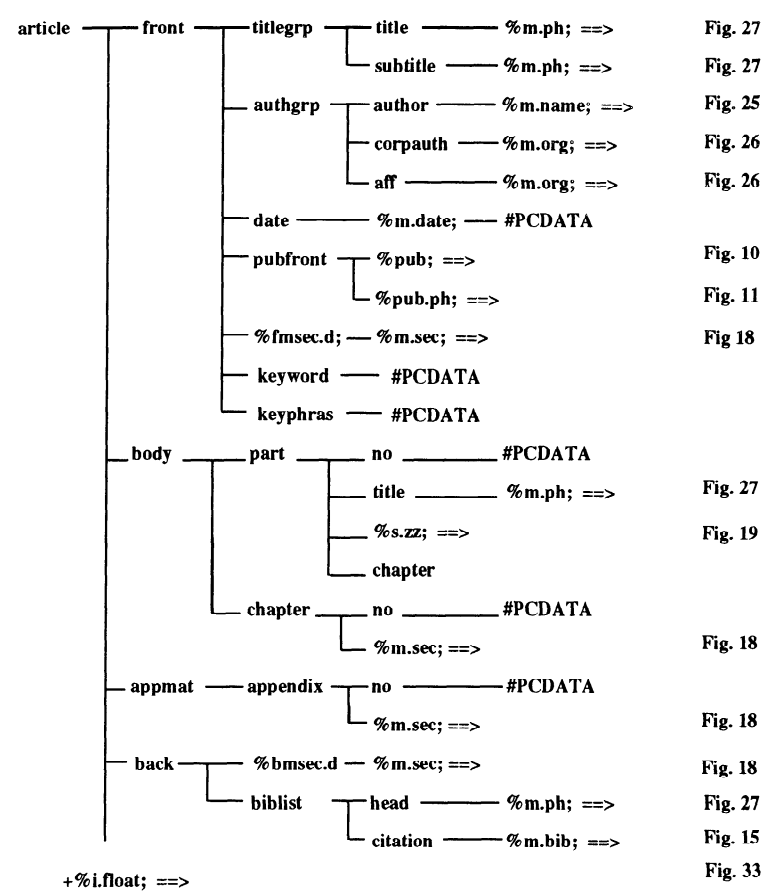


Figure A.2 Overall structure of Articles

A.2.2 Front matter, appendix matter and back matter structure of Books

A book front matter element (**front**) consists of a title group (**titlegrp**), followed by an author group (**authgrp**), followed by a date (**date**) (optional), followed by the publisher's front matter group (**pubfront**)(optional), followed by front matter sections (**%fmsec.d;**) (optional and repeatable)(see figure A.5), followed by a table of contents (**toc**)(optional). Both the start- and the end-tag of the front matter may be omitted.

The title group element (**titlegrp**) consists of a monographic series number (**msn**)(optional), followed by a (monographic) series title (**sertitle**)(optional), followed by a number (**no**)(optional), followed by a title (**title**) and a subtitle (**subtitle**)(optional). Both the start- and the end-tag of the title group may be omitted.

The monographic series number (**msn**) and number (**no**) elements are normally numbers, and therefore consist of parsed character data (**#PCDATA**). Their end-tags may be omitted.

The (monographic) series title (**sertitle**), the title (**title**) and subtitle (**subtitle**) elements consist of "phrase models" (%**m.ph**);(see figure A.27). The end-tags of the series title, the title and subtitle elements may be omitted.

The author group element (**authgrp**) consists of an author element (**author**), a corporate body as an author element (**corpauth**) and an affiliation element (**aff**). All these are optional and repeatable and they may be entered in any order. The start- and the end-tag of the author group element may be omitted.

The author element (**author**) consists of "name subelements" (%**m.name**);(see figure A.25). The end-tag of the author element may be omitted.

The corporate body as an author element (**corpauth**) and affiliation element (**aff**) consist of "organization name subelements" (%**m.org**);(see figure A.26). The end-tags of the corporate body as an author and affiliation elements may be omitted.

The date element (**date**) consists of "date subelements" (%**m.date**;) which consist of #PCDATA. The end-tag of the date element may be omitted.

The publisher's front matter group element (**pubfront**) contains "publisher information subelements" (%**pub**);(see figure A.3) or "publication information subelements" (%**pub.ph**);(see figure A.4). These are in arbitrary order, optional and repeatable. The end-tag of the publisher's front matter group may be omitted.

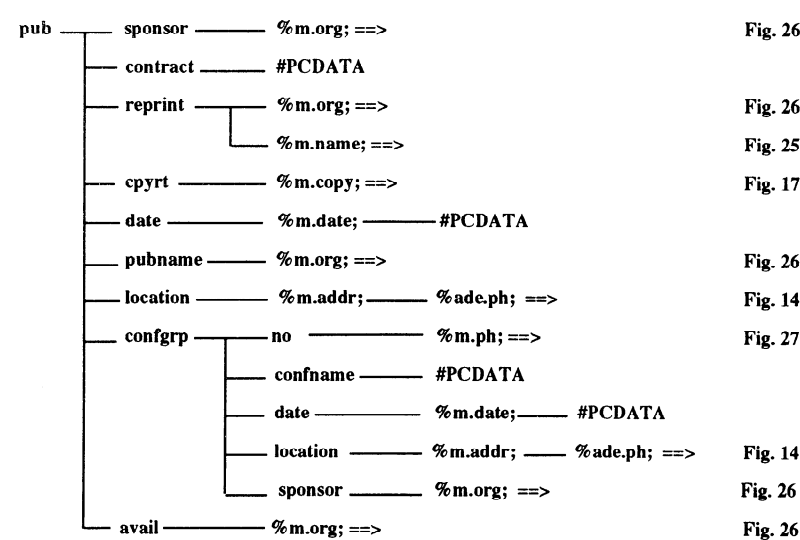


Figure A.3 Publisher information subelements for Books (%pub;)

"Publisher information subelements" (%**pub**);(see figure A.3) are defined as a contract or grant sponsor (**sponsor**), or a contract number (**contract**), or a reprint source (**reprint**), or a