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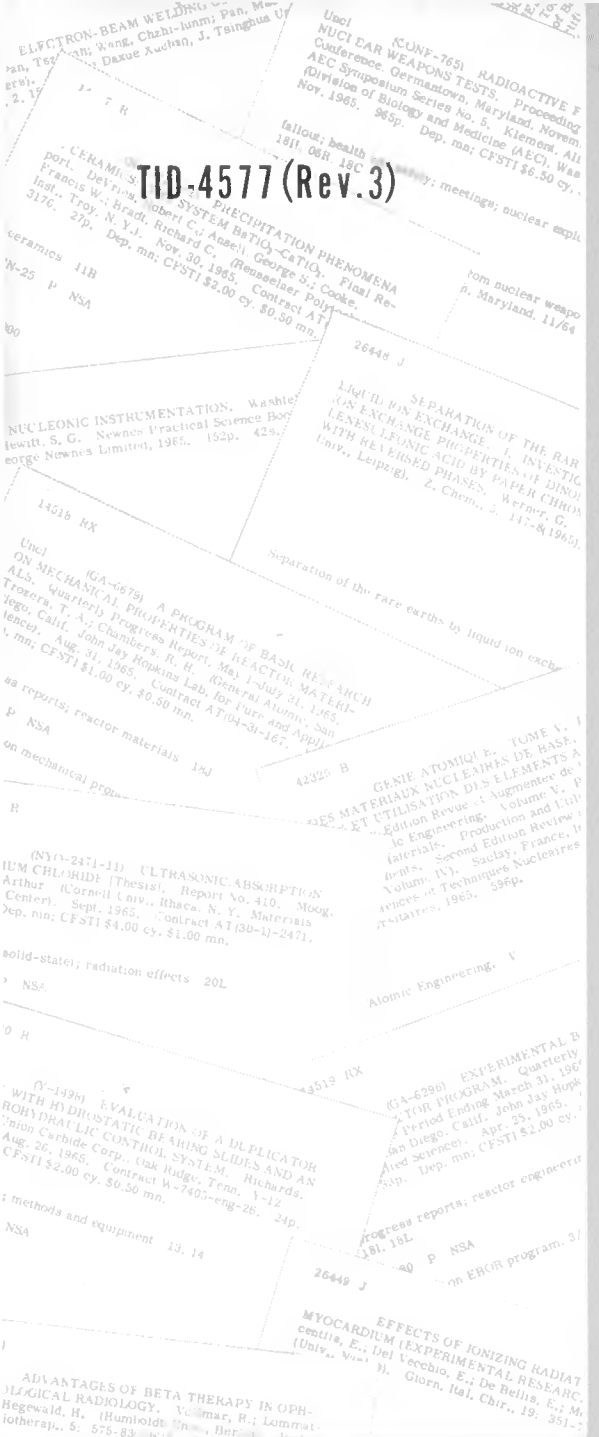
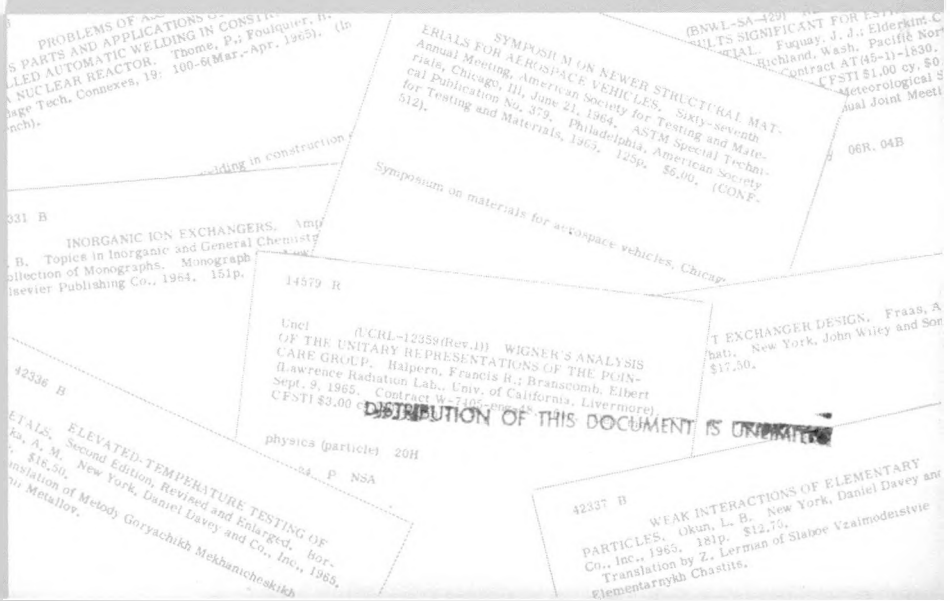
TID-4577 (Rev.3)

DESCRIPTIVE CATALOGING GUIDE

December 1968





Division of Technical Information

U.S. ATOMIC ENERGY COMMISSION

Available from

Clearinghouse for Federal Scientific and Technical Information

National Bureau of Standards, U. S. Department of Commerce

Springfield, Virginia 22151 $3.00

Printed in the United States of America

USAEC Division of Technical Information Extension

Oak Ridge, Tennessee

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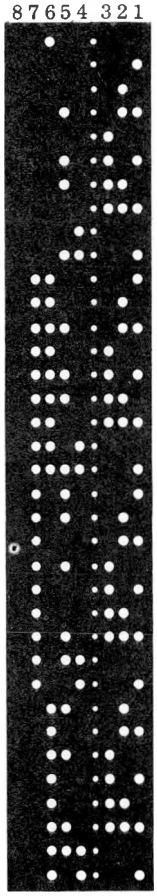	0	3	0	2
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	c	3	C	4
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	k	3	K	4
	l	2	L	4
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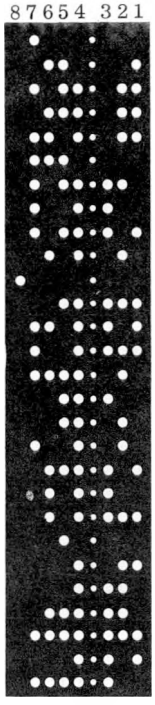
	o	3	O	4
	p	3	P	4
	q	3	Q	4
	r	3	R	4
	s	3	S	3
	t	2	T	4
	u	3	U	4
	v	3	V	4
	w	4	W	5
	x	3	X	4
	y	3	Y	4
	z	3	Z	4

Code 87654 321	LC	Units	UC	Units
	)	2	(	2
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	ON 1		ON 2	
	Address Iden (Aux J)			
	Backspace			
	Carriage Return			
	Data Selector (Aux 3)			
	Flexo Skip (Aux A)			
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	Non Print (Aux space)			
	PI 1 (2, 8, space)			
	PI 2 (2, 8, ( )			
	PI 4 Dup (Aux ;)			
	Print Restore (Aux zero)			
	Punch Off (W and Z)			
	Space			
	Stop			
	Switch (Aux 2)			
	Tab			
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Computer Recognition

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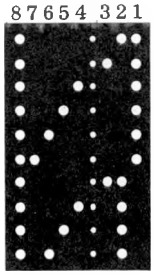	1
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Chapter 1

INTRODUCTION

1-1 AEC System of Bibliographic Control of Nuclear Science Literature

The system of bibliographic control of the nuclear science literature presently used by the U. S. Atomic Energy Commission (AEC) is computer based and provides a variety of products. The main products are the printed issues of *Nuclear Science Abstracts (NSA)* and its cumulated indexes.

A special feature of the system is that the descriptive cataloging, or bibliographic citation, is in most cases keyboarded only once. This keyboarding provides multipart forms that are used for further processing of the document being cataloged, coded paper tape that is used as input to a computer, and clean camera-ready copy of the citation.

Bibliographic citations are typed on Friden SPG Flexowriters, and a punched paper tape is produced simultaneously. Each element of descriptive cataloging (title, author, etc.) is preceded by a delimiter number that appears on the typed copy. This typed copy is proofread and errors are noted. The paper tape generated by the initial keyboarding is then read into the Flexowriter for selective retyping by the machine. In this operation the numerical delimiter codes are automatically suppressed, and clean camera-ready copy is prepared. (This copy will be associated with the corresponding abstract on the reproduction pages of *NSA*.) During this running of the first paper tape, necessary corrections are made. At the same time a second paper tape is produced which is automatically punched with the delimiter codes used by the computer to identify the various descriptive cataloging elements.

The second paper tape is processed through the IBM 360/20, where the information is converted to magnetic tape, given various edit routines, and listed for proofreading. Corrections are input and the corrected tape is processed on the IBM 7090. From the machine-readable descriptive cataloging information, three indexes (personal author, corporate author, and report number) for *NSA* are listed.

Indexes for individual issues of *NSA* are printed by the computer, using a 120-character chain. Cumulative indexes are printed by the Linotron at the U. S. Government Printing Office, using a 256-character grid. Since the Flexowriters have only 86 printing characters, coding must be provided which will permit the computer to call forth the many additional characters available on the 120-character chain and the 256-character grid.

In the computer the descriptive cataloging information is associated by a common serial number with the corresponding subject cataloging. This permits computer subject searches that retrieve and print out complete bibliographic citations for desired subject areas.

It is also possible to use the stored descriptive cataloging data to obtain statistics and groupings of articles, for example, listings of all cited journals by country of publication, and the ranking of all journals cited in *NSA* by order of the number of articles cited.

1-2 Purposes of the Descriptive Cataloging Guide

This guide provides rules for the descriptive catalogers of AEC's Division of Technical Information Extension (DTIE). These rules enable the catalogers to follow consistently established bibliographic conventions of descriptive cataloging and to code the information accurately so that it can be manipulated in the computer for the production of indexes and for later retrieval.

It is also the purpose of the guide to acquaint others with the cataloging practices of the AEC. Users and potential users of the AEC's printed and machine-readable services will find the guide helpful in interpreting these services.

1-3 General Procedures

Descriptive cataloging information is keyboarded on Friden SPG Flexowriters only once, but three classes of products are generated from this keyboarding:

(1) Completed multipart forms (see Chap. 4 for illustrations) are produced at the first typing. The forms are used in further processing of the document (abstracting, indexing, makeup, etc.); the top copy is photographed to provide reproduction (repro) copy for catalog cards and an accessions list.

(2) A draft paper tape is produced which is read into the Flexowriter to produce reproduction copy for *NSA*.

(3) A computer input tape is produced which is coded for computer processing and storage and which is used to produce personal author, corporate author, and report number indexes for *NSA*.

The cataloger keyboards the necessary bibliographic data, making use of program tapes (see Sec. 2-1.1) and auxiliary tapes (see Sec. 2-1.2) to provide coding for the computer and guidance to the cataloger in selecting the cataloging elements. Along with the typewritten multipart forms, a draft punched paper tape is produced. The citation on the multipart form is proofread (by another library assistant) against the cataloged item, and corrections are indicated on the copy. (The multipart forms are corrected manually.)

The draft tape is read into the Flexowriter for simultaneous production of clean camera-ready copy for *NSA* and the computer input tape. During this reading errors noted in the proofreading are corrected by the Flexowriter operator, who, keeping the machine under close control, keyboards the corrections manually at the necessary intervals. The delimiter subscripts (see page 14) do not print at this stage, and this reading of the draft tape provides clean, corrected reproduction copy for *NSA* along with the corrected punched tape for use by the computer.

1-4 Input Equipment Used for Descriptive Cataloging

A Friden Flexowriter model SPG (Automatic Writing Machine) is used to keyboard multicopy processing forms and punch an initial paper tape. It also produces reproduction copy for *NSA*.

A Friden Selectadata model STR D is used to search, select, and read out information from a punched paper tape. It automatically keyboards repetitive delimiters or other information. The manual data selector allows two series of up to ten preselected digits to be automatically written by the attached Flexowriter.

A Friden Auxiliary Punch is used to punch a corrected paper tape for the computer at the same time the Flexowriter is keyboarding reproduction copy by reading the initial tape.

Chapter 2

PREPARATION OF CATALOGING FORM AND DRAFT TAPE

2-1 General Instructions

2-1.1 *Selection of Program Tapes*

Determine which of the following classes of literature applies to the document to be cataloged:

(1) Reports and Individual Conference Papers
(2) Journal Literature and Book Analytics
(3) Patents
(4) Translations
(5) Non-AEC Unnumbered Conference Papers
(6) Books and Unnumbered Theses
(7) Engineering Materials (CAPE's)

Then select the corresponding program tape. The program tapes contain the following data:

(1) Codes to print delimiter subscript numbers to guide the cataloger in the selection of bibliographic elements appropriate to each type of document.
(2) Codes to position and control the Flexowriter for certain elements of the descriptive cataloging.
(3) Delimiter codes to be transferred to the computer input tape to enable the computer to recognize the various descriptive cataloging elements.

2-1.2 *Preparation of Auxiliary Tape for Selectadata Reader*

Prepare an auxiliary tape to permit the Selectadata to print automatically information of a repetitive nature that will be included on all or several items to be cataloged. Examples are (1) the cataloger's initials and the date (all items), (2) journal citations, and (3) drop notes giving conference information.

Program tapes automatically select the date and cataloger's initials from the auxiliary tape. Other information is called for by the SWITCH code on the program tape or by the cataloger. Press the START READ key on the Selectadata to bring in information from the auxiliary tape.

To prepare an auxiliary tape, punch each element of the common descriptive cataloging information in the tape, and follow this with three spaces and a switch code. If variable information is to be entered within an element, as is the case for page numbers in journal citations, punch a stop code at this point in the auxiliary tape.

2-2 Copy Preparation

To type the multipart forms, place the POWER SWITCH in the ON position and the PUNCH CONTROL SWITCH in the SELECT position. Thread the appropriate program tape in the tape reader, and produce a leader of tape feed codes sufficiently long to reach the take-up reel.

2-2.1 *Margins and Spacing*

Set the left margin at 10 and the form alignment guide at 1. Set the two tabs required at 15 and 17.

A single space on the Flexowriter spaces two units, and a backspace returns one unit.

The line length of descriptive cataloging for composition is 180 units. Note, however, that the subscripts used to delimit elements of descriptive cataloging will not print on the reproduction copy. Thus lines on the initially typed copy may exceed 180 units by the amount of space taken up by delimiter subscripts, i.e., two units for each digit.

There should be six units (three spaces) between elements of descriptive cataloging inside the image area. All spacing within the image area is done manually. Spacing and carriage returns outside the image area are under a combination of manual and program tape control. (See specimens of cataloged items in Secs. 4-1 to 4-7.)

The report number (title if a report number is not entered) is indented 30 units, and the drop note is indented 6 units. Both of these indentions are accomplished under control of the program tapes.

The beginning and end of each computer input tape should contain at least 12 inches of tape feed codes. This is necessary to facilitate conversion of paper tape to magnetic tape; no tape feed codes are required between descriptive cataloging items.

Each cataloging element that is manually typed must be preceded by its corresponding delimiter subscript. Tables are provided in Secs. 4-1 to 4-7 which enumerate the descriptive cataloging elements composed for each type of item.

2-2.2 *Serial Number; Type of Item; Date and Cataloger's Initials*

Set the Selectadata dials at the serial number that is prestamped on the multipart form. Insert and position the multipart form. When START READ is pressed, the Flexowriter will type the serial number shown on the Selectadata and the appropriate code letter designating the type of item. For *all* items except reports, the Flexowriter will then select the date and cataloger's initials from the Selectadata auxiliary tape, position the form to receive the report number or title, print the appropriate subscript, and halt in upper case. The Flexowriter will also halt after printing the letter R for reports. This is to permit typing an X after the R for all progress reports.

2-2.3 *Subsequent Descriptive Cataloging Elements*

After the last character of a descriptive cataloging element is typed, the usual routine is to space three times and press START READ. There are only two exceptions to this procedure:

(1) If enough space is not available on the line, it is best to return the carriage before pressing START READ. Note, however, that the carriage can be returned after spacing and pressing START READ without causing an error.

(2) If the next descriptive cataloging element must always begin a new line, it is only necessary to press START READ. The program tape will automatically return the carriage and indent if necessary. It will be important to anticipate the elements that must begin on a new line because the carriage should not be returned manually before these elements. The following elements will always begin a new line:

Delimiter Subscript	*Element*	*Program Control Preceding the Element*
25	Drop Note	Carriage return, followed by three spaces (6 units)
26	Field/Group (Words)	Two carriage returns
28	Distribution	Two carriage returns
31	Short Title	Carriage return, followed by manual carriage returns to appropriately position the form, tab

When delimiter subscripts print for which no descriptive cataloging element is available, proceed to the next element by pressing START READ, without spacing.

2-2.4 *Second Cards*

In unusual instances the descriptive cataloging information will not fit in the image area of the cataloging form. In such cases type to the bottom of the image area, *turn the punch off*, type "Continued on Card 2" at the bottom of the form, type "Card 2" above the image area of a second form, position the second form, *turn the punch on*, and resume typing. The paper tape should not contain any codes which indicate that two forms have been used for an item.

2-3 Special Characters, Supercripts, and Subscripts

Scientific literature contains many characters not found on the Flexowriter keyboard. Certain characters can be expressed so as to permit keyboarding on the Flexowriter and to be clear to the reader. However, the 120-character print chain used by the computer and the 254-character grid used by the Linotron (see Introduction) make many additional characters available for the material produced by that equipment. It is necessary to use certain techniques and conventions to code the information as it is keyboarded so that the computer can interpret the coding and select the appropriate characters from the 120-character chain and the Linotron grid.

When a title contains special characters that cannot be produced on the Flexowriter, the repro copy (see Sec. 1-3) is destroyed and the multipart form is annotated to show (1) that recomposition is required (use the letters NFC for no final copy) and (2) the items that need to be recomposed (the cataloger should clearly write the required symbol or character).

2-3.1 *Characters Available on 120-Character Print Chain*

The following 120 characters are available on the special 1403 print chain available to DTIE.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

1 2 3 4 5 6 7 8 9 0 . : ; , / ♀ = + – → $ ♂ % ∫ √ *

> < [ ] ( ) _ (underline) ' (quote, apostrophe)

α β Δ Σ π Ξ ω γ ν Λ Ω μ

superscript: ^{1} ^{2} ^{3} ^{4} ^{5} ^{6} ^{7} ^{8} ^{9} ^{0} $^{-}$ $^{+}$

subscript: $_{1}$ $_{2}$ $_{3}$ $_{4}$ $_{5}$ $_{6}$ $_{7}$ $_{8}$ $_{9}$ $_{0}$

2-3.2 *Abbreviations and Symbols for Coding*

The following symbols and abbreviations are used to indicate Flexowriter operations that produce codes on the paper tape that in turn are interpreted by the computer:

$^{c}_{r}$ carriage return

$^{b}_{s}$ back space

$^{u}_{c}$ upper case

$^{l}_{c}$ lower case

• stop code

♂ special nonprint code (this is a nonprint code produced by a special key installed on the Flexowriter).

2-3.3 *Hyphen and En Dash*

The hyphen is used to represent both hyphens and en dashes, except in report numbers. The en dash is used only after the prefixes of report numbers. Thus the hyphen is used in report numbers except after the prefix, between page numbers, in chemical bonds, as a minus sign, to separate ranges of information in lieu of "to" or "through," and in hyphenated words. Note that hyphens composed at the ends of lines which are not part of words hyphenated (as normally spelled) must be followed immediately by two backspaces.

2-3.4 *Superscripts*

A superscript is any character or string of characters above the normal line position. If *all* the characters of a superscript are available in the superscript position on the 120-character computer print chain, i.e., +, −, 0-9, and blank, the entire superscript is enclosed in stop codes preceded by two upper-case codes.

$^{uus}_{cc}{}^{s}_{t}$SUPERSCRIPT$^{s}_{t}$
$_{p}$ $_{p}$ $_{p}$

Examples:

Copy	*Flexowriter Computer Tape*	*Converted by Computer to*
Sn^{117}	$^{uus}_{cc}{}^{s}_{t}{}_{117}{}^{s}_{t}{}^{l}_{c}$n	^{117}Sn
Fe^{++}	$^{u}_{c}$F$^{l}_{c}$e$^{uus}_{cc}{}^{s}_{t}{}^{s}_{t}$	Fe^{++}

Note that the asterisk (*) does not require special coding. If any character in a superscript is not available on the 120-character print chain, the entire superscript, preceded by the abbreviation "sup," is placed between slashes. No other special coding is required.

Examples:

Copy	*Composed as*
Lu^{176m}	/sup 176m/Lu
E^{max}	E/sup max/

2-3.5 *Subscripts*

A subscript consists of any character or string of characters below the normal line position. If *all* the characters of a subscript, i.e., 0-9 and blank, are available on the 120-character print chain in the subscript position no special coding is required. Simply use the subscript numerals on the Flexowriter. If any character in a subscript is not available on the 120-character print chain, the entire subscript, preceded by the abbreviation "sub," is placed between slashes.

Examples:

Copy	*Composed as*
SU_n	SU/sub n/
$^2P_{3/2}$	uus s cct^{2}t P$_3$/$_2$ p p
Ar_B	Ar/sub B/

Note that when superscripts or subscripts are composed between slashes, the numbers used are always entered in lower case. If a superscript is over a subscript, the subscript should always be composed first.

Examples:

Copy	*Flexowriter Computer Tape*	*Converted by Computer to*
N_2^+	u uus s cN$_2$cct+t p p	$N_2{}^+$
K_1^0	u uus s cK$_1$cct^{0}t p p	$K_1{}^0$

Copy	*Composed as*
Mg_e^{A-3}	Mg/sub e//sup A-3/
+ -	uus l s cct+c-t p p

2-3.6 *Characters Not Requiring Recomposition*

Characters that can be composed on the Flexowriter to produce acceptable repro copy, together with the procedure for composition, are as follows:

'	(apostrophe or prime sign)	Adjust platen
'	(superior comma)	Keyboard as •,•
&	(ampersand)	Keyboard as and, And, or AND
·	(centered dot)	Keyboard as period on the line •.•
Å	(Angstrom symbol)	Keyboard as ♂A♂
×	(times symbol)	Use lower case x; keyboard as ♂x♂
°	(degree symbol)	Use superscript zero; keyboard as ♂cc•^{0}•♂ (uu over cc)
ä, ö, ø, and ü		Keyboard as ae, oe, oe, and ue, respectively; ignore all other diacritical marks
—	(underline)	Ignore in composition
%		Keyboard as •percent• •Percent• •PERCENT•
ł		Keyboard as ♂l♂
Ł		Keyboard as L
⊕		♂+♂

The symbol ♂ preceding and following some conventions requires that these conventions be preceded and followed by a stop code to permit insertion of the symbol when the draft tape is read.

2-3.7 *Input Conventions for Conversion to the 120-Character Print Chain and the Linotron*

The following table lists special characters that appear in scientific and technical literature. Some of these characters are available on the 120-character chain used by the computer; most are found on the 256-character grid used by the Linotron. The cataloger uses the coding shown in column 2 to call forth the appropriate characters or to produce an acceptable representation of the character as found on the document being cataloged. Characters shown with an (*) do not need recomposition for reproduction copy for *NSA*. (See Sec. 2-3.6.) Note that • is a stop code and that ♂ is a Linotron-only code. The special Linotron symbol ♂ must always be preceded by a stop code.

SPECIAL CHARACTERS APPEARING IN SCIENTIFIC AND TECHNICAL LITERATURE

Manuscript	Flexowriter	120-Character Chain	Linotron
α or a	●alpha●	α	α
β or $\mathcal{b}$	●beta●	β	β
Γ	♂GAMMA♂	GAMMA	Γ
γ	●gamma●	γ	γ
Δ	●DELTA●	Δ	Δ
δ	♂deltа♂	delta	δ
∂	♂par. deltа♂	par. delta	∂
ϵ	♂epsilon♂	epsilon	ϵ
ζ	♂zetа♂	zeta	ζ
η	♂etа♂	eta	η
Θ	♂THETA♂	THETA	Θ
ϑ or θ	♂thetа♂	theta	θ
ι	♂iotа♂	iota	ι
$\varkappa$ or κ	♂kappа♂	kappa	κ
Λ	●LAMBDA●	Λ	Λ
λ	♂lambdа♂	lambda	λ
μ	●mu●	μ	μ
ν	●nu●	ν	ν
Ξ	●XI●	Ξ	Ξ
ξ	♂xiа♂	xi	ξ
o	omicron	omicron	omicron
Π	♂PIа♂	PI	Π
π	●pi●	π	π
ρ	♂rhoа♂	rho	ρ
Σ	●SIGMA●	Σ	Σ
σ	♂sigmа♂	sigma	σ
τ	♂tauа♂	tau	τ
Υ	UPSILON	UPSILON	UPSILON
υ	upsilon	upsilon	upsilon
Φ	♂PHIа♂	PHI	Φ
φ or ϕ	♂phiа♂	phi	ϕ
χ	♂chiа♂	chi	χ
Ψ	PSI	PSI	PSI
ψ	♂psiа♂	psi	ψ
Ω	●OMEGA●	Ω	Ω
ω	●omega●	ω	ω
*Å	♂Aа♂	A	Å
$\hbar$	♂h-barа♂	h-bar	$\hbar$
*λ	♂l-barа♂	l-bar	λ
*L	L	L	L
$\tilde{\mathrm{U}}$	♂U tildeа♂	U tilde	$\tilde{\mathrm{U}}$
$\bar{\mathrm{n}}$	♂anti nа♂	anti n	$\bar{\mathrm{n}}$
$\bar{\mathrm{p}}$	♂anti pа♂	anti p	$\bar{\mathrm{p}}$
$\bar{\nu}$	♂anti ●nu●♂	anti ν	$\bar{\nu}$
$\bar{\mathrm{K}}$	♂anti Kа♂	anti K	$\bar{\mathrm{K}}$
$\bar{\mathrm{N}}$	♂anti Nа♂	anti N	$\bar{\mathrm{N}}$
$\bar{\Lambda}$	♂anti ●LAMBDA●♂	anti Λ	$\bar{\Lambda}$
$\bar{\mu}$	♂anti ●mu●♂	anti μ	$\bar{\mu}$
$\bar{\Xi}$	♂anti ●XI●♂	anti Ξ	$\bar{\Xi}$
$\bar{\Sigma}$	♂anti ●SIGMA●♂	anti Σ	$\bar{\Sigma}$
$\pm$	♂+ -♂	+ -	$\pm$
-	♂-♂	-	-
+	+	+	+
*x or $\times$	♂xа♂	X	$\times$
=	●equals●	=	=
$\sim$	approximately or proportional to	approximately or proportional to	approximately or proportional to
$\simeq$	asymptotically equals	asymptotically equals	asymptotically equals
$\doteq$ or $\approx$	approximately equals	approximately equals	approximately equals
<	●lt●	<	<
>	●gt●	>	>
$\geq$ or $\geqslant$	greater than or equal to	greater than or equal to	greater than or equal to
$\leq$ or $\leqslant$	less than or equal to	less than or equal to	less than or equal to
$\ni$	♂such thatа♂	such that	$\ni$
$\in$	♂element ofа♂	element of	$\in$
$\supset$	contains	contains	contains
$\subset$	is contained in	is contained in	is contained in
$\rightarrow$	●yields●	$\rightarrow$	$\rightarrow$
$\rightleftharpoons$	in equilibrium	in equilibrium	in equilibrium

(Table continues on the following page.)

Manuscript	Flexowriter	120-Character Chain	Linotron
∞	♂infinity♂	infinity	∞
⊗	♂circled x♂	circled x	⊗
*⊕	♂+♂	+	⊕
|	♂/♂	/	|
/	/	/	/
∫	●integral●	∫	∫
√	●root●	√	√
*	*	*	*
*∘	♂$^{uu}_{cc}$●^{0}●♂	0	∘
*%	●percent●	%	%
or	●PERCENT●	%	%
$	$	$	$
£	♂Pound♂	Pound	£
*′ (prime)	●,●	′	′
*&	and	and	and
or	And	And	And
or	AND	AND	AND
*· (center dot)	●.●	·	·
.	.	.	.
,	,	,	,
:	:	:	:
;	;	;	;
-	-	-	-
“	●’’●	’’	“ } Linotron characters are determined by even/odd combinations of ’’. (“ will be 1st, 3rd ... (odd) set of ●’’●, and the 2nd, 4th ... (even) set of ●’’● will generate ’’.)
”	●’’●	’’	” }
!	♂. 2 backspaces, ●’●♂	¡	!
?	♂|♂	¿	?
(	(	(	(
)	)	)	)
[	[	[	[
]	]	]	]
÷	/	/	/
♀	female	female	female
or	Female	Female	Female
or	FEMALE	FEMALE	FEMALE
♂	male	male	male
or	Male	Male	Male
or	MALE	MALE	MALE
$\tilde{K}$	K tilde	K tilde	K tilde
$\tilde{k}$	k tilde	k tilde	k tilde
– (en)	–	--	–
— (em)	:	:	:
$\vec{I}$	I Vector	I Vector	I Vector
or	I VECTOR	I VECTOR	I VECTOR
Superscripts:			
±	♂$^{uu}_{cc}$●+-●♂	+-	±
∓	♂$^{uu}_{cc}$●-+●♂	-+	∓
+	$^{uu}_{cc}$●+●	+	+
-	$^{uu\ 1}_{cc}$●-●	-	-
0-9; .; ,;/	e.g. ♂$^{uu}_{cc}$●^{75}●♂	^{75}.	^{75}· } (for numerals with “/”, “.”, or “,” embedded)
	e.g. ♂$^{uu}_{cc}$●^{1}●/$^{uu}_{cc}$●^{2}●♂	½	½ }
0-9,+,-	e.g. $^{uu}_{cc}$●^{3}+●	3+	3+ } (for numerals with or without embedded +, –, or blank)
	e.g. $^{uu}_{cc}$●$^{-4}$●	-4	-4 }
a-z	/sup a-z/	/sup a-z/	/sup a-z/ (super g or x alone will convert to g or x)
m,g,x	/sup m/	/sup m/	*m* (same for g and x)
A-Z	/sup A-Z/	/sup A-Z/	/sup A-Z/

(Table continues on the following page.)

Manuscript	Flexowriter	120-Character Chain	Linotron
Subscripts:			
0-9	0-9	0-9	0-9
a-z	/sub a-z/	/sub a-z/	a-z
A-Z	/sub A-Z/	/sub A-Z/	A-Z
Λ	/sub ●LAMBDA●/	/sub Λ/	Λ
δ	/sub delta/	/sub delta/	δ
π	/sub ●pi●/	/sub π/	π
Σ	/sub ●SIGMA●/	/sub Σ/	Σ
μ	/sub ●mu●/	/sub μ/	μ
γ	/sub ●gamma●/	/sub γ/	γ
+	/sub +/	/sub +/	+
-	/sub -/	/sub -/	-
/	any sub no./ any sub no.	$_{2}/_{3}$	$_{1}/$ } Implied by an on-the-line slash bounded by sub numbers on 120-character chain
$\parallel$	/sub parallel/	/sub parallel/	$\parallel$
$\perp$	/sub perpendicular/	/sub perpendicular/	$\perp$
∞	/sub infinity/	/sub infinity/	∞
.	/sub ./	/sub ./	.
,	/sub ,/	/sub ,/	,
$\odot$	/sub sun mass/	/sub sun mass/	$\odot$
$\rightarrow$	○sub arrow○	/sub arrow/	$\rightarrow$
$^{0}_{1}$	/sup 0 sub 1/	/sup 0 sub 1/	$^{0}_{1}$
$^{0}_{2}$	/sup 0 sub 2/	/sup 0 sub 2/	$^{0}_{2}$
$^{*}_{0}$	/sup * sub 0/	/sup * sub 0/	$^{*}_{0}$
$^{*}_{1}$	/sup * sub 1/	/sup * sub 1/	$^{*}_{1}$
$^{*}_{3}$	/sup * sub 3/	/sup * sub 3/	$^{*}_{3}$
$^{*}_{5}$	/sup * sub 5/	/sup * sub 5/	$^{*}_{5}$
$^{*}_{7}$	/sup * sub 7/	/sup * sub 7/	$^{*}_{7}$
$^{*}_{9}$	/sup * sub 9/	/sup * sub 9/	$^{*}_{9}$

Chapter 3

PREPARATION OF REPRODUCTION COPY AND COMPUTER INPUT TAPES

3-1 General Instructions

The multipart cataloging forms are first proofread against the cataloged items. Any errors detected in this proofreading step must be corrected both in the computer input tape and on the *NSA* reproduction copy.

The computer input tapes and the *NSA* repro copy are prepared simultaneously by reading the draft tapes at the Flexowriter tape reader. The items read are typed automatically as repro copy without delimiter subscripts, and tapes for computer processing are punched by an auxiliary punch.

3-2 Operational Details

Ensure that an auxiliary punch is correctly plugged into the Flexowriter. Depress the POWER switch on the auxiliary punch. If a new reel of computer tape is required on the auxiliary punch, depress the PUNCH ALL switch and ensure that at least 12 inches of tape feed codes are punched at the end of the completed tape and at the beginning of the new tape. Before continuing, turn off the PUNCH ALL switch.

As in typing the multipart forms, place the Flexowriter POWER SWITCH in the ON position and the PUNCH CONTROL switch in the SELECT position. Thread the draft tape in the tape reader, position the first sheet of fan-folded repro copy paper in the Flexowriter, and press TAPE SKIP. The draft tape will automatically stop the Flexowriter at the end of each item to permit positioning a new sheet of repro copy paper. It is only necessary to press TAPE SKIP to begin each new item and to continue the punching of the computer tape.

If it detects a stop code within an item, the Flexowriter will stop, but the stop code will not be reproduced. Thus it is necessary to press the STOP CODE key every time a stop code is encountered within an item before the START READ key is used to reactivate the Flexowriter. This important rule applies to all stop codes encountered within an item since the stop codes are essential for computer conversion of several special characters and superscripts.

3-3 Correction of Errors Found in Proofreading

Any errors noted on the proofed multipart forms must be corrected both in the computer tape and on the *NSA* repro copy. To correct an error, stop the draft tape before the error, manually advance the draft tape beyond the error codes, keyboard the corrections, and press START READ to resume.

3-4 Correction of Errors Detected by the Computer

Several types of errors are detected in the process of converting the computer tapes to a specified magnetic tape format. All computer tapes are processed by a computer program to identify as many of these errors as is practicable, and error statements are provided for each batch of computer tape input.

All valid error-correction entries must include a serial number and a type of item code matching an item previously keyboarded. Since these are the only criteria for an error-correction entry, the elements of a newly composed item will replace the corresponding elements of a previously composed item having the same serial number and type of item code. Elements left blank in the newly composed item will leave the corresponding elements unaltered in the corrected item.

A single Flexowriter program tape is used to facilitate error correction. This program tape can be used to correct all types of items since it contains the delimiter subscripts and codes for all the descriptive cataloging elements retained on magnetic tape. The error-correction program tape is illustrated on page 44.

Error corrections are punched on auxiliary punches in a single operation, i.e., they are not passed through the Flexowriter reader as are the draft descriptive cataloging tapes.

In a correction entry the serial number and type of item are always necessary. These and all other elements which are corrected or deleted must follow the appropriate delimiter subscripts that are printed under program control. Also, each correction entry must be ended by a 99 delimiter code. When the 99 code is punched into the error-correction tape, an END statement will print under program control.

Replace, add, and/or delete specific elements in an entry as follows: Press START READ and enter the serial number after the subscript 1. Press START READ and enter the type of item after the subscript 2. Manually advance the program tape to the appropriate delimiter position(s), press START READ, and replace or add an element by typing the entire element in the correct form, or delete an element by typing ØDELØ. Read the end of the program tape by pressing TAPE SKIP or by manually advancing it to delimiter 99 and pressing START READ.

Delete an entire entry as follows: Press START READ and enter the serial number after the subscript 1. Press START READ and type DL after the subscript 2. Read the end of the program tape by pressing TAPE SKIP or by manually advancing it to delimiter 99 and pressing START READ.

Chapter 4

PROGRAM TAPES, CATALOGING ELEMENTS, AND EXAMPLES FOR EACH TYPE OF ITEM DESCRIPTIVELY CATALOGED

Abbreviations in Program Tape Descriptions

BKS – backspace
CR – carriage return
DS – data select
LC – lower case
NP – non-print
OFF – punch off (Flexowriter or auxiliary punch)
ON1 – Flexowriter punch on
ON2 – auxiliary punch on
PR – print restore
SP – space
STP – stop
SW – switch
TSR – tape skip restore
UC – upper case

The paper tape bit configurations are shown for delimiter codes.

Delimiter subscripts and other printing characters are identified by screening on the program tape descriptions.

Elements of Descriptive Cataloging Arranged by Delimiter Subscripts

Delimiter Subscript	*Cataloging Element*	*Reports and Individual Conference Papers (R) or (RX)**	*Journal Literature (J)*	*Patents (P)*	*Translations (T)*	*Non-AEC Unnumbered Conference Papers† (C)*	*Books and Unnumbered Theses (B)*	*Engineering Materials (CAPES) (E)*
(1)	Serial Number	x	x	x	x	x	x	x
(2)	Type of Item	x	x	x	x	x	x	x
(null)	Date and Cataloger's Initials	x	x	x	x	x	x	x
(3)	Classification Uncl Conf Conf-RD Secret Secret-RD OUO	x						
(4)	Report Number	x			x			
(5)	Title	x	x	x	x	x	x	x
(6)	Author(s)/Inventor(s)	x	x	x	x	x	x	
(7)	Corporate Author	x			x			x
(8)	Affiliation		x		x	x		
(9)	Assignee			x				
(10)	Translation Note				x			
(11)	Patent Number(s)‡			x	x§			
(12)	Date (Reports)	x						
(13)	Date(s) (Patent)			x				
(14)	Contract Number	x	x				x	x
(15)	Journal Citation		x		x			
(16)	Series Title						x	
(17)	Source Article				x			
(18)	Publisher and Year Published						x	
(19)	Society, Date, Pages, and Price of Preprint					x		
(20)	Pages	x			x		x	
(21)	Price						x	
(22)	Language	x	x	x	x	x	x	
(23)	Secondary Number(s)	x	x		x	x	x	x
(24)	Availability	x			x	x	x	
(25)	Drop Note	x	x		x	x	x	x
(26)	Field/Group (Words)	x	x	x	x	x	x	x
(27)	Field/Group (Codes)	x			x			
(28)	Distribution STD–(Category) MN–(Category) PNT–(Category) LTD–(Category)	x			x			
(29)	Report Origin P (Project) NP (Non-Project)	x			x			
(30)	Selected for: *NSA* *ACR* RC	x	x	x	x	x	x	x x
(31)	Short Title	x	x	x	x	x	x	x
(32)	Corporate Code	x			x		x	
(33)	Source of Bibliographic Information; Country of Affiliation	x	x	x	x	x	x	x
(34)	CODEN		x		x			

*R = Reports and RX = Progress Reports.
†Individual conference papers with report numbers are cataloged as reports.
‡For patents, country of origin precedes the patent number.
§For translations of reports, the report number of the original document is used.

4-1 Reports and Individual Conference Papers

Type of Item Code: R or RX*

Delimiter Subscript	*Cataloging Element*	*Delimited for*	
		Index Preparation	*NSA Citation*
(1)	Serial Number		
(2)	Type of Item		
(null)	Date and Cataloger's Initials		
(3)	Classification of Document: Uncl Conf Conf-RD Secret Secret-RD OUO		x
(4)	Report Number	x	x
(5)	Title		x
(6)	Author(s)	x	x
(7)	Corporate Author(s)		x
(12)	Date (Report)		x
(14)	Contract Number(s)		x
(20)	Pages		x
(22)	Language		
(23)	Secondary Number(s)	x	x
(24)	Availability: Dep From Price	x	x
(25)	Drop Note		x
(26)	Field/Group (Words)		
(27)	Field/Group (Codes)		
(28)	Distribution: STD – (Category) MN – (Category) PNT – (Category) LTD– (Category)		
(29)	Report Origin: P (Project) NP (Non-Project)		
(30)	Selected for: *NSA* *ACR* RC		
(31)	Short Title	x	
(32)	Corporate Code	x	
(33)	Source of Bibliographic Information; Country of Affiliation		

*The letters RX denote a progress report.

Subscripted Elements on Multipart Form

65177 R 1-25-68eac

Uncl $_{4}$(BNL–9684) $_{5}$LINEAR ENERGY TRANSFER SPECTRA AND EFFECTIVE QUALITY FACTORS IN STRAY RADIATION AREAS AT THE BROOKHAVEN NATIONAL LABORATORY PROTON SYNCHROTRONS. $_{6}$Phillips, Leigh F.; Champagne, Robert J.; Scalsky, Edward D. $_{7}$(Brookhaven National Lab., Upton, N. Y.). $_{12}$[1965]. $_{14}$Contract AT(30-2)-Gen-16. $_{20}$15p. $_{22}$ $_{23}$(CONF-651109–12). $_{24}$Dep. CFSTI.
$_{25}$From 1st Symposium on Accelerator Radiation Dosimetry and Experience, Upton, N. Y.

$_{26}$health and safety; particle accelerators $_{27}$06R, 20G

$_{28}$MN-28 $_{29}$P NSA

$_{31}$Linear energy transfer spectra and effective quality factors in stray radiation areas at BNL proton synchrotrons

$_{32}$140 1000 $_{33}$DTIE; US

Repro Copy from Draft Tape

65177 R

Uncl (BNL–9684) LINEAR ENERGY TRANSFER SPECTRA AND EFFECTIVE QUALITY FACTORS IN STRAY RADIATION AREAS AT THE BROOKHAVEN NATIONAL LABORATORY PROTON SYNCHROTRONS. Phillips, Leigh F.; Champagne, Robert J.; Scalsky, Edward D. (Brookhaven National Lab., Upton, N. Y.). [1965]. Contract AT(30-2)-Gen-16. 15p. (CONF-651109–12). Dep. CFSTI.
From 1st Symposium on Accelerator Radiation Dosimetry and Experience, Upton, N. Y.

health and safety; particle accelerators 06R, 20G

MN-28 P NSA

Linear energy transfer spectra and effective quality factors in stray radiation areas at BNL proton synchrotrons

140 1000 DTIE; US

(Examples continue on the following page.)

Subscripted Elements on Multipart Form

42317 R 1-29-68ssc NFC

Uncl $_{4}$(STI/PUB–91(Vol.2)) $_{5}$CHEMICAL EFFECTS OF NUCLEAR TRANSFORMATIONS. VOL. II. Proceedings Series. Proceedings of the Symposium held in Vienna, 7-11 December 1964. $_{67}$(International Atomic Energy Agency, Vienna (Austria)). $_{12}$1965. $_{1420}$567p. $_{2223}$(CONF-660203–(Vol.2)). $_{24}$IAEA: $11.00; S231,-; ~~Pound~~ £3.6.0; F FR 44,-; DM 38,50.

$_{25}$

$_{26}$chemistry (radio- and radiation) $_{27}$07E

$_{28}$PBL-4 $_{29}$NP NSA

$_{31}$Conference on chemical effects of nuclear transformations, Vienna, 11/64. II

$_{32}$418 8000 $_{33}$DTIE; AT

Separately Composed Repro Copy for NSA

42317 R

Uncl (STI/PUB–91(Vol.2)) CHEMICAL EFFECTS OF NUCLEAR TRANSFORMATIONS. VOL. II. Proceedings Series. Proceedings of the Symposium held in Vienna, 7-11 December 1964. (International Atomic Energy Agency, Vienna (Austria)). 1965. 567p. (CONF-660203–(Vol.2)). IAEA: $11.00; S231,-; £3.6.0; F Fr 44,-; DM 38,50.

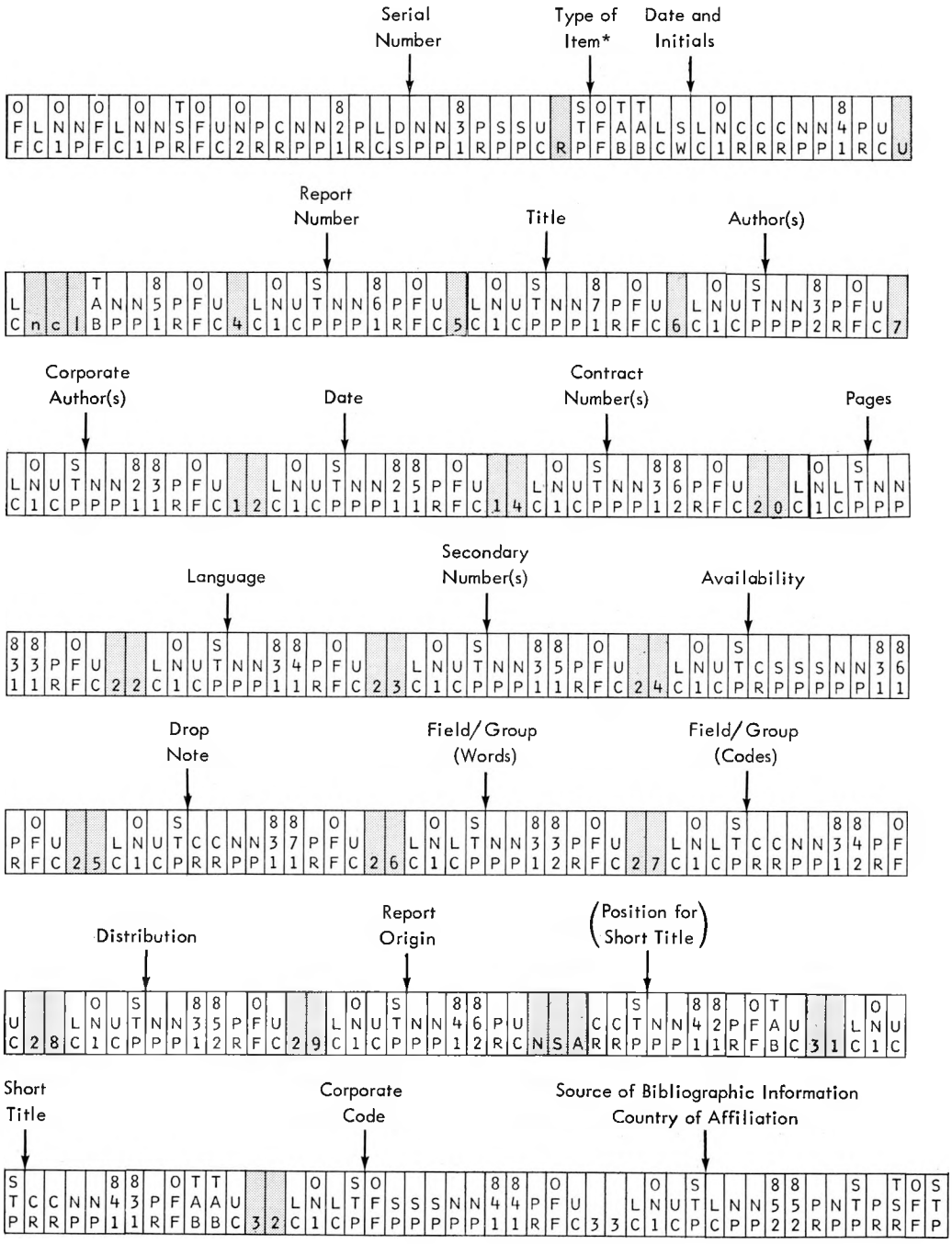
chemistry (radio- and radiation) 07E

PBL-4 NP NSA

Conference on chemical effects of nuclear transformations, Vienna, 11/64. II

418 8000 DTIE; AT

Program Tape



*The program stops to permit insertion of the letter X, for progress reports only.

4-2 Journal Literature and Book Analytics

Type of Item Code: J

Delimiter Subscript	*Cataloging Element*	*Delimited for*	
		Index Preparation	*NSA Citation*
(1)	Serial Number		
(2)	Type of Item		
(null)	Date and Cataloger's Initials		
(5)	Title		x
(6)	Author(s)	x	x
(8)	Affiliation		x
(14)	Contract Number(s)		x
(15)	Journal Citation*		x
(22)	Language		x
(23)	Secondary Number(s)†	x	x
(25)	Drop Note‡		x
(26)	Field/Group (Words)		
(30)	Selected for: *NSA* *ACR* RC		
(31)	Short Title	x	
(33)	Source of Bibliographic Information; Country of Affiliation		
(34)	CODEN		

*For book analytics the complete title, editor, and publisher are entered in lieu of the journal citation.

†When a secondary number is provided, the availability will be the journal citation (or book title) for the report number index.

‡For book analytics where the book has a report number, the drop note will include the statement "see (report number) in Report Number Index."

Subscripted Elements on Multipart Form

65345 J 1-29-68ssc

$_{5}$SPACE-CHARGE WAVELENGTHS IN ELECTRON BEAMS. $_{6}$Branch, Garland M. Jr.; Mihran, Theodore G.; Neugebauer, Wendell; Pohl, W. John $_{8}$(General Electric Co., Schenectady, N. Y.). $_{14}$Contract W-31-109-eng-52. $_{15}$IEEE (Inst. Elec. Electron. Eng.) Trans. Electron Devices, ED-14: 350-7 (July 1967). $_{2223}$

25

26

31

$_{33}$DIX; US $_{34}$IETDA

Repro Copy from Draft Tape

65345 J

SPACE-CHARGE WAVELENGTHS IN ELECTRON BEAMS. Branch, Garland M. Jr.; Mihran, Theodore G.; Neugebauer, Wendell; Pohl, W. John (General Electric Co., Schenectady, N. Y.). Contract W-31-109-eng-52. IEEE (Inst. Elec. Electron. Eng.) Trans. Electron Devices, ED-14: 350-7 (July 1967).

DIX; US IETDA

(Examples continue on the following page.)

Subscripted Elements on Multipart Form

65346 J 1-29-68ssc

$_{5}$STUDIES ON THE INHIBITION OF RADIOSTRONTIUM UPTAKE FROM THE HUMAN GASTROINTESTINAL TRACT WITH SODIUM ALGINATE. $_{6}$Hesp, R.; Ramsbottom, B. $_{8}$(United Kingdom Atomic Energy Authority, Sellafield, Eng.). $_{1415}$pp 313-21 of Strontium Metabolism. Lenihan, J. M. A.; Loutit, J. F.; Martin, J. H. (eds.). London, Academic Press, 1967. $_{2223}$

$_{25}$From International Symposium on Some Aspects of Strontium Metabolism, Chapelcross, Scotland, May 5—7, 1966. See CONF-660561.

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31

$_{33}$UK; UK $_{34}$

Repro Copy from Draft Tape

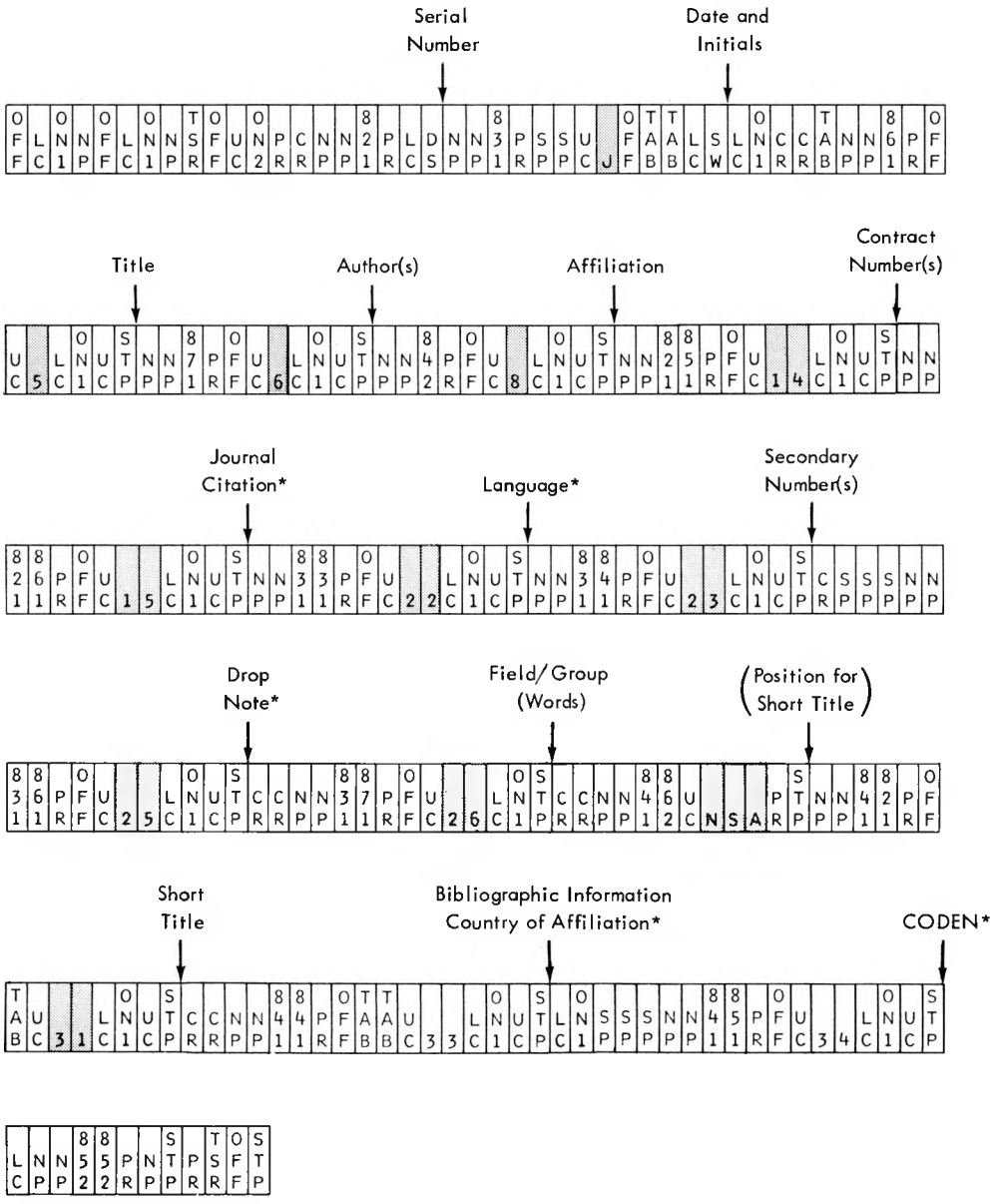
65346 J

STUDIES ON THE INHIBITION OF RADIOSTRONTIUM UPTAKE FROM THE HUMAN GASTROINTESTINAL TRACT WITH SODIUM ALGINATE. Hesp, R.; Ramsbottom, B. (United Kingdom Atomic Energy Authority, Sellafield, Eng.). pp 313-21 of Strontium Metabolism. Lenihan, J. M. A.; Loutit, J. F.; Martin, J. H. (eds.). London, Academic Press, 1967.

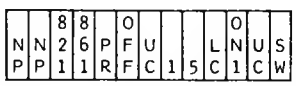
From International Symposium on Some Aspects of Strontium Metabolism, Chapelcross, Scotland, May 5—7, 1966. See CONF-660561.

UK; UK

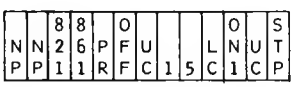
Program Tape



*(1) The switch (SW) code in lieu of this STOP code permits automatic reproduction of repetitive information from auxiliary tapes on Selectadata. (2) If the STOP code is used here, the information may be input by the keyboard or by an auxiliary tape on the Selectadata by pressing the START READ key.



(1)



(2)

4-3 Patents

Type of Item Code: P

Delimiter Subscript	*Cataloging Element*	*Delimited for*	
		Index Preparation	*NSA Citation*
(1)	Serial Number		
(2)	Type of Item		
(null)	Date and Cataloger's Initials		
(5)	Title		x
(6)	Inventor(s)	x	x
(9)	Assignee		x
(11)	Patent Number*	x	x
(13)	Date(s) (Patent) Awarded Priority† Filed		x
(22)	Language		x
(26)	Field/Group (Words)		
(30)	Selected for: *NSA*		
(31)	Short Title	x	
(33)	Source of Bibliographic Information; Country of Affiliation		

*Includes country of origin.
†Includes country of filing.

Subscripted Elements on Multipart Form

65343 P 1-26-68ssc

5PROCESS FOR MAKING A LEAD SCREEN. 6Marchal, Raymond; Chevlier, Roger; Combecave, Michel 9(to Commissariat a l'Energie Atomique). 11U. S. Patent 3,216,077. 13Nov. 9, 1965. Priority date Sept. 10, 1961, France. 22

26

31

33DTIE; FR

Repro Copy from Draft Tape

65343 P

PROCESS FOR MAKING A LEAD SCREEN. Marchal, Raymond; Chevlier, Roger; Combecave, Michel (to Commissariat a l'Energie Atomique). U. S. Patent 3,216,077. Nov. 9, 1965. Priority date Sept. 10, 1961, France.

DTIE; FR

(Examples continue on the following page.)

Subscripted Elements on Multipart Form

65344 P 1-26-68ssc

$_{5}$AUTOMATIC MACHINE FOR MILLING FINS ON CYLINDRICAL PARTS. $_{6}$Tetart, Emile; Juzon, Louvie; Pyrenees, B. $_{9}$(to Commissariat a l'Energie Atomique). $_{11}$British Patent 1,000,237. $_{13}$Aug. 4, 1965. Priority date June 7, 1963, France. $_{22}$

$_{26}$

$_{31}$

$_{33}$UK; FR

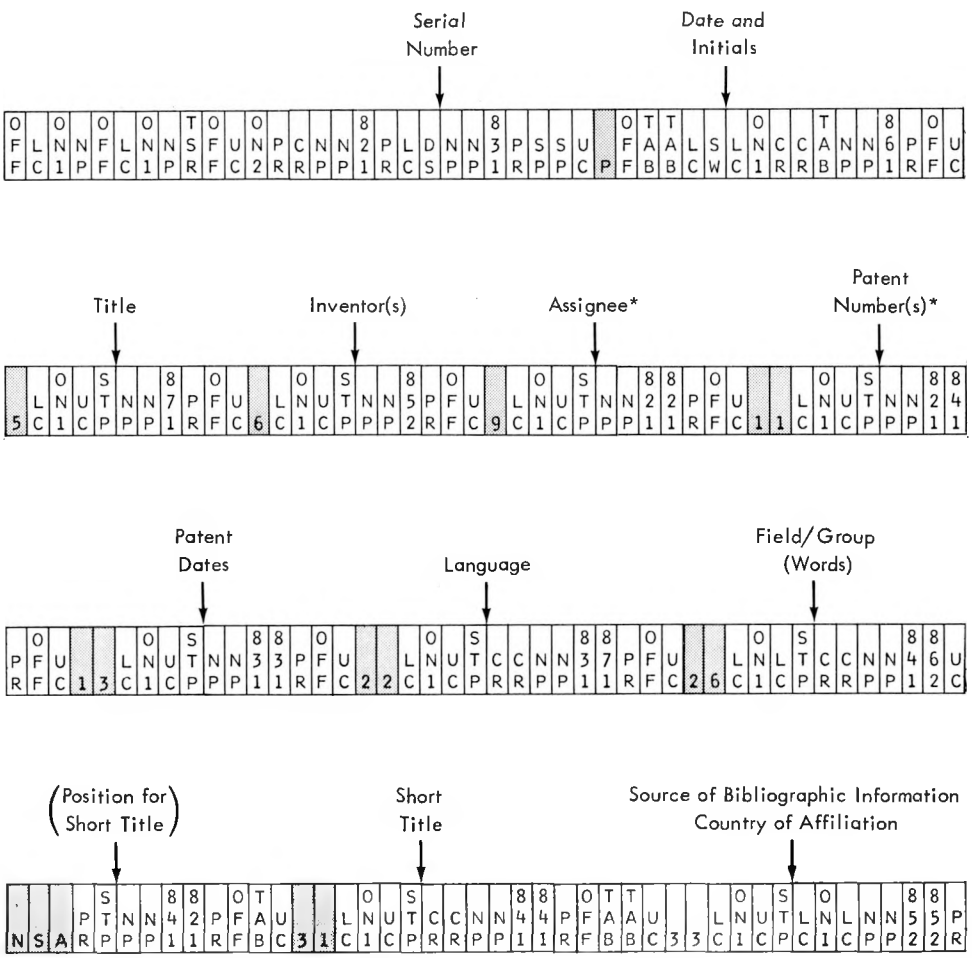
Repro Copy from Draft Tape

65344 P

AUTOMATIC MACHINE FOR MILLING FINS ON CYLINDRICAL PARTS. Tetart, Emile; Juzon, Louvie; Pyrenees, B. (to Commissariat a l'Energie Atomique). British Patent 1,000,237. Aug. 4, 1965. Priority date June 7, 1963, France.

UK; FR

Program Tape



*SWITCH (SW) codes in lieu of these STOP codes permit reproduction of repetitive assignees and patent numbers from auxiliary tapes.

4-4 Translations

Type of Item Code: T

Delimiter Subscript	*Cataloging Element*	*Delimited for*	
		Index Preparation	*NSA Citation*
(1)	Serial Number		
(2)	Type of Item		
(null)	Date and Cataloger's Initials		
(4)	Report Number	x	x
(5)	Title		x
(6)	Author(s)/Inventor(s)	x	x
(7)	Corporate Author(s)*		x
(8)	Affiliation†		x
(10)	Translation Note‡		x
(11)	Patent Number (or Originator's Report Number)	x	x
(15)	Journal Citation§		x
(17)	Source Article¶		x
(20)	Pages**		x
(22)	Language		x
(23)	Secondary Number(s)	x	x
(24)	Availability:†† Dep From Price	x	x
(25)	Drop Note		x
(26)	Field/Group (Words)		
(27)	Field/Group (Codes)		
(28)	Distribution: STD – (Category) MN – (Category) PNT – (Category)		
(29)	Report Origin: P (Project) NP (Non-Project)		
(30)	Selected for: *NSA* *ACR* RC		
(31)	Short Title	x	
(32)	Corporate Code*	x	
(33)	Source of Bibliographic Information; Country of Affiliation		
(34)	CODEN		

*Provide corporate author and corporate code for original (not translation) if the article translated is a report.

†If translation of a journal item, give the author's affiliation.

‡Begin with "Translated from, by," etc., followed by translator's name and affiliation, $_{11}$patent number (if patent) or report number (if report), $_{15}$journal citation, volume, issue, date (if journal), $_{17}$source article (if book). Use appropriate delimiters.

§For translated journal items: give title, volume, issue, date, etc.

¶Use this delimiter for book title when translation is a book.

**Use for pages of translated item.

††Use this availability delimiter when processing patents or translations having an originator's report number. Type availability in the usual format in these cases.

Subscripted Elements on Multipart Form

42317 T 1-25-68gsa

$_{4}$(NP-tr-1313) $_{5}$THE STUDY OF CHARGED PARTICLE BEAMS BY MEANS OF PICK-UP ELECTRODES. $_{6}$Gol'din, L. L. $_{7}$(Gosudarstvennyi Komitet po Ispol'zovaniyu Atomnoi Energii SSSR, Moscow. Institut Teoreticheskoi i Eksperimental'noi Fiziki). $_{810}$Translated by J. Rice and Revised by N. Mouravieff (European Organization for Nuclear Research, Geneva, Switzerland), from report $_{11}$ITEF–363. $_{151720}$11p. $_{222324}$Dep. CFSTI.

$_{25}$

$_{26}$particle accelerators; translations $_{27}$20G

$_{28}$MN-28 $_{29}$NP NSA

$_{31}$Study of charged particle beams by means of pick-up electrodes

$_{32}$363 6000 $_{33}$DTIE; UR $_{34}$

Repro Copy from Draft Tape

42317 T

(NP-tr-1313) THE STUDY OF CHARGED PARTICLE BEAMS BY MEANS OF PICK-UP ELECTRODES. Gol'din, L. L. (Gosudarstvennyi Komitet po Ispol'zovaniyu Atomnoi Energii SSSR, Moscow. Institut Teoreticheskoi i Eksperimental'noi Fizik). Translated by J. Rice and Revised by N. Mouravieff (European Organization for Nuclear Research, Geneva, Switzerland), from report ITEF–363. 11p. Dep. CFSTI.

particle accelerators; translations 20G

MN-28 NP NSA

Study of charged particle beams by means of pick-up electrodes

363 6000 DTIE; UR

(Examples continue on the following page.)

Subscripted Elements on Multipart Form

21341 T 2-9-68sbl

$_{4}$(UCRL-Trans-1358) $_{5}$EXPERIMENTAL INVESTIGATION OF THE MOTION OF SINGLE CHARGED PARTICLES IN A TRAP WITH MAGNETIC MIRRORS. $_{6}$Ponomarenko, V. G.; Trainin, L. Ya.; Yurchenko, V. I.; Yasnetskii, A. N. $_{7}$(Akademiya Nauk SSSR, Novosibirsk. Institut Yadernoi Fiziki). $_{810}$Translated by M. Kassatkin (Univ. of California, Berkeley), from a Preprint. $_{11151720}$21p. $_{222324}$Dep. CFSTI. JCL $2.60 fs, $0.83 mf.

$_{25}$

$_{26}$physics (plasma); translations $_{27}$20I

$_{28}$MN-34 $_{29}$P NSA

$_{31}$

$_{32}$032 1000 $_{33}$DTIE; UR $_{34}$

Repro Copy from Draft Tape

21341 T

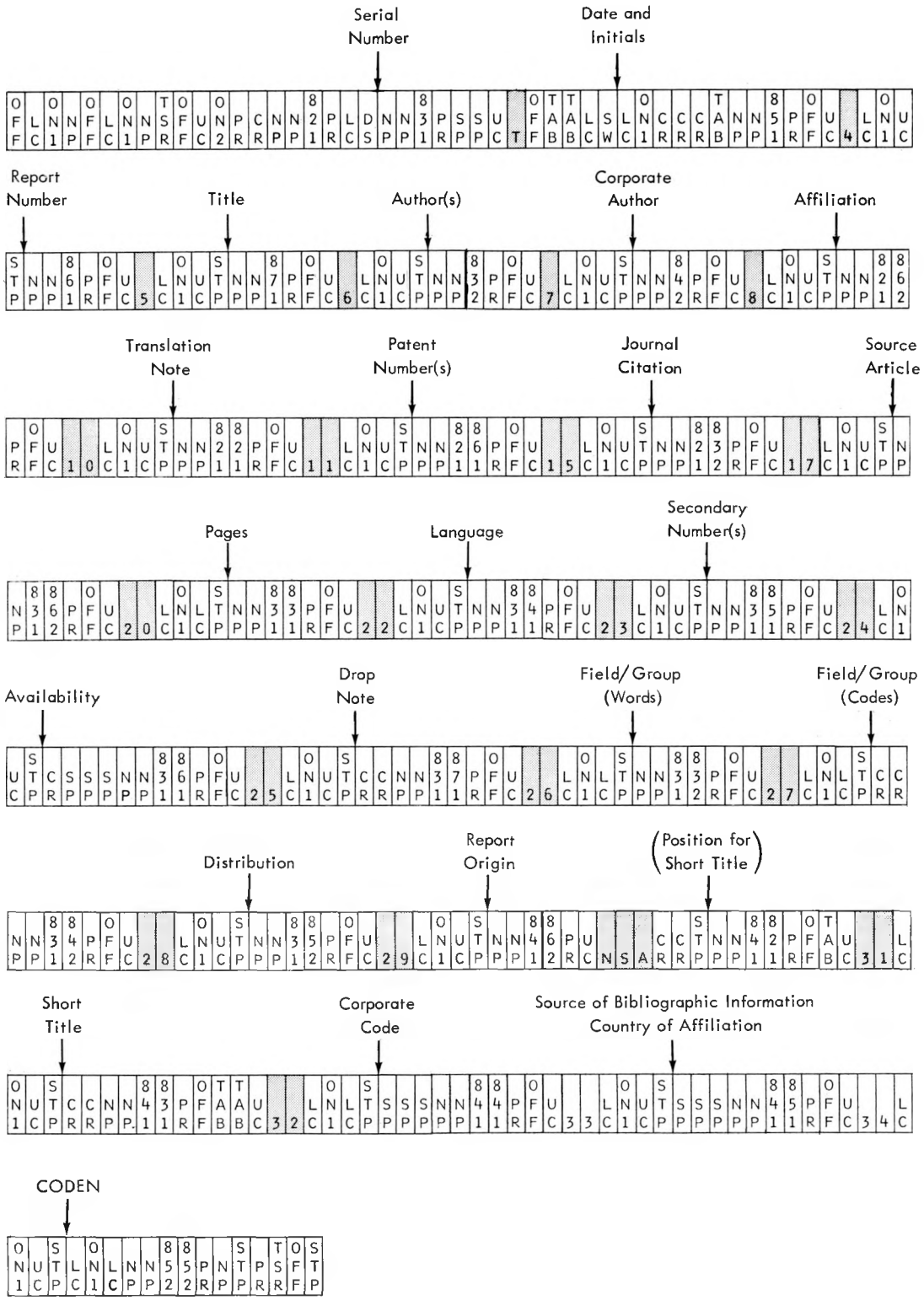
(UCRL-Trans-1358) EXPERIMENTAL INVESTIGATION OF THE MOTION OF SINGLE CHARGED PARTICLES IN A TRAP WITH MAGNETIC MIRRORS. Ponomarenko, V. G.; Trainin, L. Ya.; Yurchenko, V. I.; Yasnetskii, A. N. (Akademiya Nauk SSSR, Novosibirsk. Institut Yadernoi Fiziki). Translated by M. Kassatkin (Univ. of California, Berkeley), from a Preprint. 21p. Dep. CFSTI. JCL $2.60 fs, $0.83 mf.

physics (plasma); translations 20I

MN-34 P NSA

032 1000 DTIE; UR

Program Tape



4-5 Non-AEC Unnumbered Conference Papers

Type of Item Code: C

Delimiter Subscript	*Cataloging Element*	*Delimited for*	
		Index Preparation	*NSA Citation*
(1)	Serial Number		
(2)	Type of Item		
(null)	Date and Cataloger's Initials		
(5)	Title		x
(6)	Author(s)	x	x
(8)	Affiliation		x
(19)	Society, Date, Pages, and Price of Preprint		x
(22)	Language		x
(23)	Secondary Number(s)	x	x
(24)	Availability	x	x
(25)	Drop Note		x
(26)	Field/Group (Words)		
(30)	Selected for: *NSA*		
(31)	Short Title	x	
(33)	Source of Bibliographic Information; Country of Affiliation		

Subscripted Elements on Multipart Form

64238 C 1-13-66m

$_{5}$ANALYTICAL AND EXPERIMENTAL PERFORMANCE OF CAPACITOR POWERED COAXIAL PLASMA GUNS. $_{6}$
Michels, C. J.; Heighway, J. E.; Johansen, A. E. $_{8}$(Lewis Research Center, Cleveland). $_{19}$New York, American Inst. of Aeronautics and Astronautics, 1965, Preprint No. 65-340, 16p., $1.00. $_{2223}$(CONF-650711–47). $_{24}$DTIE.
$_{25}$From AIAA 2nd Annual Meeting and Technical Demonstration, San Francisco.

$_{26}$

$_{31}$

$_{33}$DTIE; US

Repro Copy from Draft Tape

64238 C

ANALYTICAL AND EXPERIMENTAL PERFORMANCE OF CAPACITOR POWERED COAXIAL PLASMA GUNS.
Michels, C. J.; Heighway, J. E.; Johansen, A. E. (Lewis Research Center, Cleveland). New York, American Inst. of Aeronautics and Astronautics, 1965, Preprint No. 65-340, 16p., $1.00. (CONF-650711–47). DTIE.
From AIAA 2nd Annual Meeting and Technical Demonstration, San Francisco.

DTIE; US

(Examples continue on the following page.)

Subscripted Elements on Multipart Form

64237 C 6-20-66pm

$_{5}$THE APPLICATION OF SPECTRAL DATA FROM ISOTOPICALLY SUBSTITUTED MOLECULES TO THE DETERMINATION OF ANHARMONIC POTENTIAL ENERGY CONSTANTS. $_{6}$Hart, Robert R. $_{8}$(Illinois Inst. of Tech., Chicago. Bell Telephone Labs., Inc., Murray Hill, N. J.). $_{19}$43p. $_{2223}$(CONF-650634–5). $_{24}$DTIE.

$_{25}$From 16th Annual Mid-America Symposium on Spectroscopy, Chicago.

$_{26}$

$_{31}$Determination of anharmonic potential energy constants

$_{33}$DTIE; US

Repro Copy from Draft Tape

64237 C

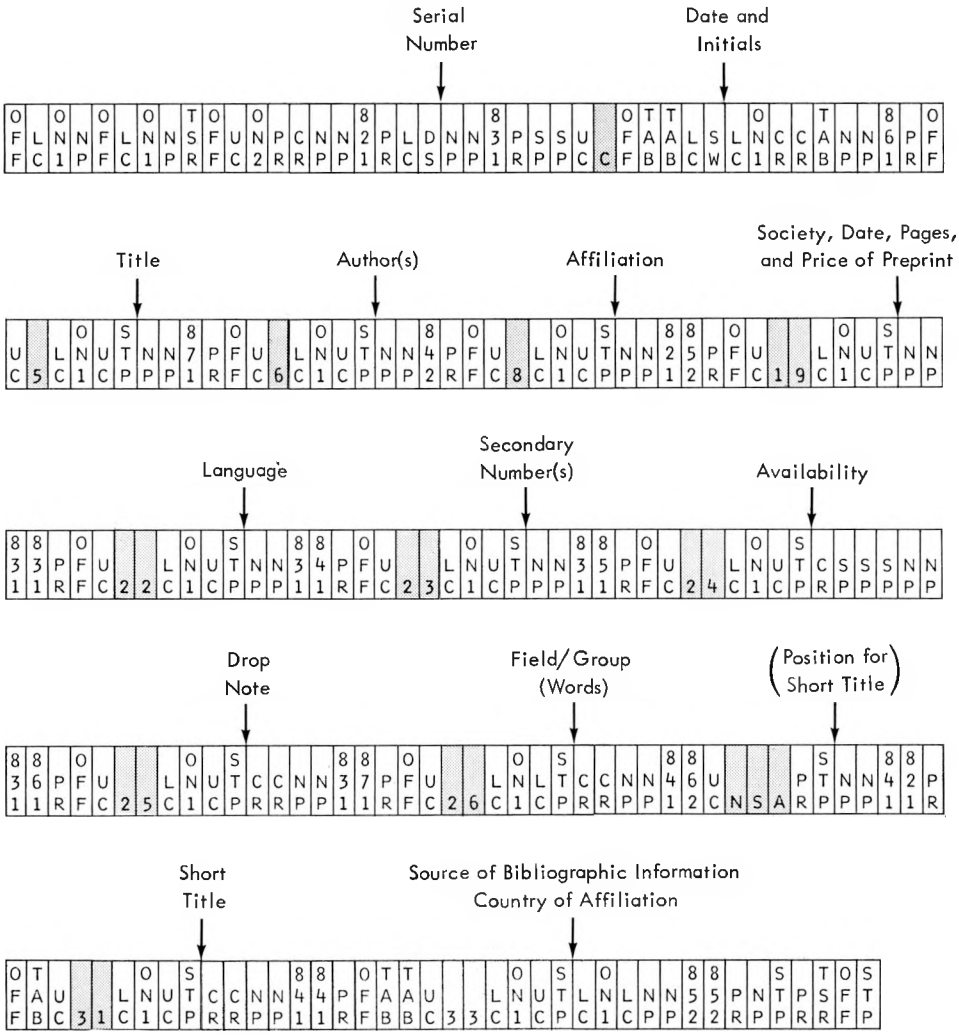
THE APPLICATION OF SPECTRAL DATA FROM ISOTOPICALLY SUBSTITUTED MOLECULES TO THE DETERMINATION OF ANHARMONIC POTENTIAL ENERGY CONSTANTS. Hart, Robert R. (Illinois Inst. of Tech., Chicago. Bell Telephone Labs., Inc., Murray Hill, N. J.). 43p. (CONF-650634–5). DTIE.

From 16th Annual Mid-America Symposium on Spectroscopy, Chicago.

Determination of anharmonic potential energy constants

DTIE; US

Program Tape



4-6 Books and Unnumbered Theses*

Type of Item Code: B

Delimiter Subscript	*Cataloging Element*	*Delimited for*	
		Index Preparation	*NSA Citation*
(1)	Serial Number		
(2)	Type of Item		
(null)	Date and Cataloger's Initials		
(5)	Title		x
(6)	Author(s)	x	x
(14)	Contract Number(s)		x
(16)	Series Title		x
(18)	Publisher and Year Published†		x
(20)	Pages		x
(21)	Price	x	
(22)	Language		x
(23)	Secondary Number(s)	x	
(24)	Availability	x	x
(25)	Drop Note		x
(26)	Field/Group (Words)		
(30)	Selected for: *NSA* *ACR* RC		
(31)	Short Title	x	
(32)	Corporate Code	x	
(33)	Source of Bibliographic Information; Country of Affiliation		

*Unnumbered translations of books are cataloged as translations. Analytics of books are cataloged as journal literature. Lead abstracts for the AEC's *Technical Progress Reviews* are cataloged as books.

†For theses, use this delimiter to indicate the university granting the degree. Delimiter 18 may also be used for availability when no availability is given in delimiter 24.

Subscripted Elements on Multipart Form

67099 B 2-6-68pm

$_{5}$EXCITATION OF THE GIANT RESONANCES WITH MUONS AND ELECTRONS, AND NUCLEON EMISSION IN ELECTRON SCATTERING. $_{6}$de Forest, Taber Jr. $_{14}$$_{16}$$_{18}$Stanford, Calif., Stanford Univ., 1966. $_{20}$150p. $_{21}$$_{22}$$_{23}$$_{24}$

$_{25}$Thesis.

$_{26}$

$_{31}$Excitation of the giant resonances with muons and electrons, and nucleon emission in electron scattering

$_{32}$ $_{33}$DTIE; US

Repro Copy from Draft Tape

67099 B

EXCITATION OF THE GIANT RESONANCES WITH MUONS AND ELECTRONS, AND NUCLEON EMISSION IN ELECTRON SCATTERING. de Forest, Taber Jr. Stanford, Calif., Stanford Univ., 1966. 150p.
Thesis.

Excitation of the giant resonances with muons and electrons, and nucleon emission in electron scattering

DTIE; US

(Examples continue on the following pages.)

Subscripted Elements on Multipart Form

64236 B 11-6-67pm

$_{5}$NUCLEAR SAFETY. Volume 8, Number 5. $_{6}$Cottrell, William B.; Jordan, W. H.; Blakely, J. P.; Savolainen, A. W. (eds.). $_{14}$Contract W-7405-eng-26. $_{16}$One of the Four Quarterly Technical Progress Reviews Published for the Division of Technical Information, USAEC. $_{18}$Oak Ridge, Tenn., Oak Ridge National Lab., Sept.-Oct. 1967. $_{20}$110p. $_{21222324}$GPO $1.00 Domestic, $1.20 Foreign.

25

26

$_{31}$Nuclear safety. Vol. 8, No. 2

$_{32}$617 1000 $_{33}$DTIE; US

Repro Copy from Draft Tape

64236 B

NUCLEAR SAFETY. Volume 8, Number 5. Cottrell, William B.; Jordan, W. H.; Blakely, J. P.; Savolainen, A. W. (eds.). Contract W-7405-eng-26. One of the Four Quarterly Technical Progress Reviews Published for the Division of Technical Information, USAEC. Oak Ridge, Tenn., Oak Ridge National Lab., Sept.-Oct. 1967. 110p. GPO $1.00 Domestic, $1.20 Foreign.

Nuclear safety. Vol. 8, No. 2

617 1000 DTIE; US

Subscripted Elements on Multipart Form

65347 B 2-1-68ssc

$_{5}$HIGH ENERGY PHYSICS. VOLUME II. $_{6}$Burhop, E. H. S. (ed.). $_{1416}$Pure and Applied Physics. A Series of Monographs and Textbooks. $_{18}$New York and London, Academic Press, 1967. $_{20}$492p. $_{21}$$24.00; 192s. $_{222324}$

25

26

$_{31}$High energy physics. II

$_{32}$ $_{33}$DTIE; US

Repro Copy from Draft Tape

65347 B

HIGH ENERGY PHYSICS. VOLUME II. Burhop, E. H. S. (ed.). Pure and Applied Physics. A Series of Monographs and Textbooks. New York and London, Academic Press, 1967. 492p. $24.00; 192s.

High energy physics. II

DTIE; US

Subscripted Elements on Multipart Form

65348 B 2-1-68ssc

$_{5}$ELEMENTARY PARTICLE PHYSICS. 1966 Tokyo Summer Lectures in Theoretical Physics. Part II. $_{6}$Takeda, Gyo; Fujii, Akihiko (eds.). $_{141618}$Tokyo, Syokabo Publishing Co. and New York, W. A. Benjamin, Inc., 1967. $_{20}$215p. $_{21222324}$

$_{25}$

$_{26}$

$_{31}$Elementary particle physics. II

$_{32}$ $_{33}$DTIE; JA

Repro Copy from Draft Tape

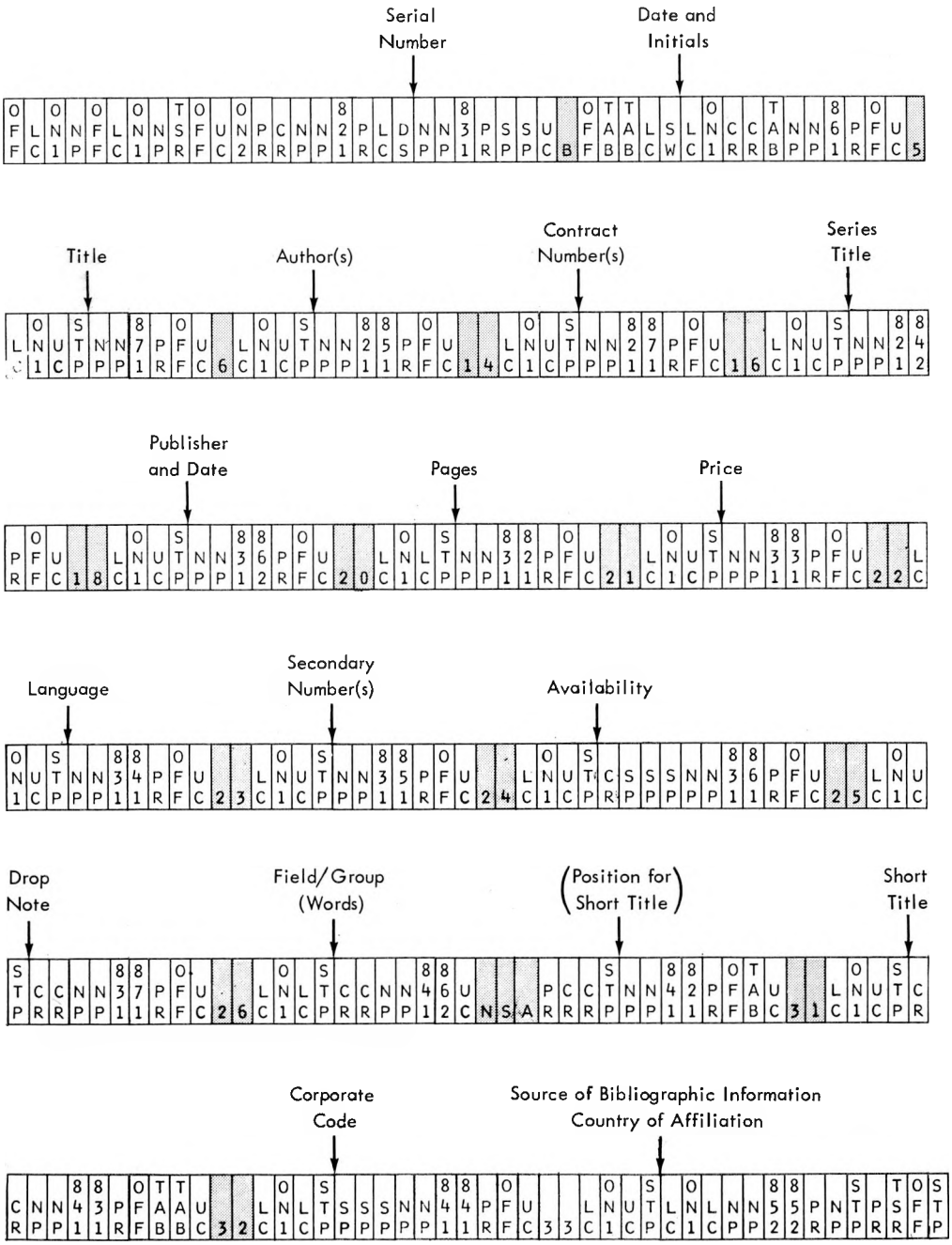
65348 B

ELEMENTARY PARTICLE PHYSICS. 1966 Tokyo Summer Lectures in Theoretical Physics. Part II. Takeda, Gyo; Fujii, Akihiko (eds.). Tokyo, Syokabo Publishing Co. and New York, W. A. Benjamin, Inc., 1967. 215p.

Elementary particle physics. II

DTIE; JA

Program Tape



4-7 Engineering Materials

Type of Item Code: E

Delimiter Subscript	*Cataloging Element*	*Delimited for*	
		Index Preparation	*NSA Citation*
(1)	Serial Number		
(2)	Type of Item		
(null)	Date and Cataloger's Initials		
(5)	Title		x
(7)	Corporate Author(s)		x
(14)	Contract Number(s)		x
(23)	Secondary Number(s)*	x	x
(25)	Drop Note		x
(26)	Field/Group (Words)		
(30)	Selected for: *NSA*		
(31)	Short Title	x	
(32)	Corporate Code	x	
(33)	Source of Bibliographic Information; Country of Affiliation		

*For Engineering Materials the CAPE number becomes the secondary number.

Subscripted Elements on Multipart Form

70958 E 3-11-68ssc

$_{5}$NEUTRON AND GAMMA SENSITIVE IONIZATION CHAMBER/Q-2289/ (Engineering Materials). $_{7}$(Oak Ridge National Lab., Tenn.). $_{1423}$(CAPE–1273).
$_{25}$3 drawings.

26

$_{31}$Neutron and gamma sensitive ionization chamber

$_{32}$617 1000 $_{33}$DTIE; US

Repro Copy from Draft Tape

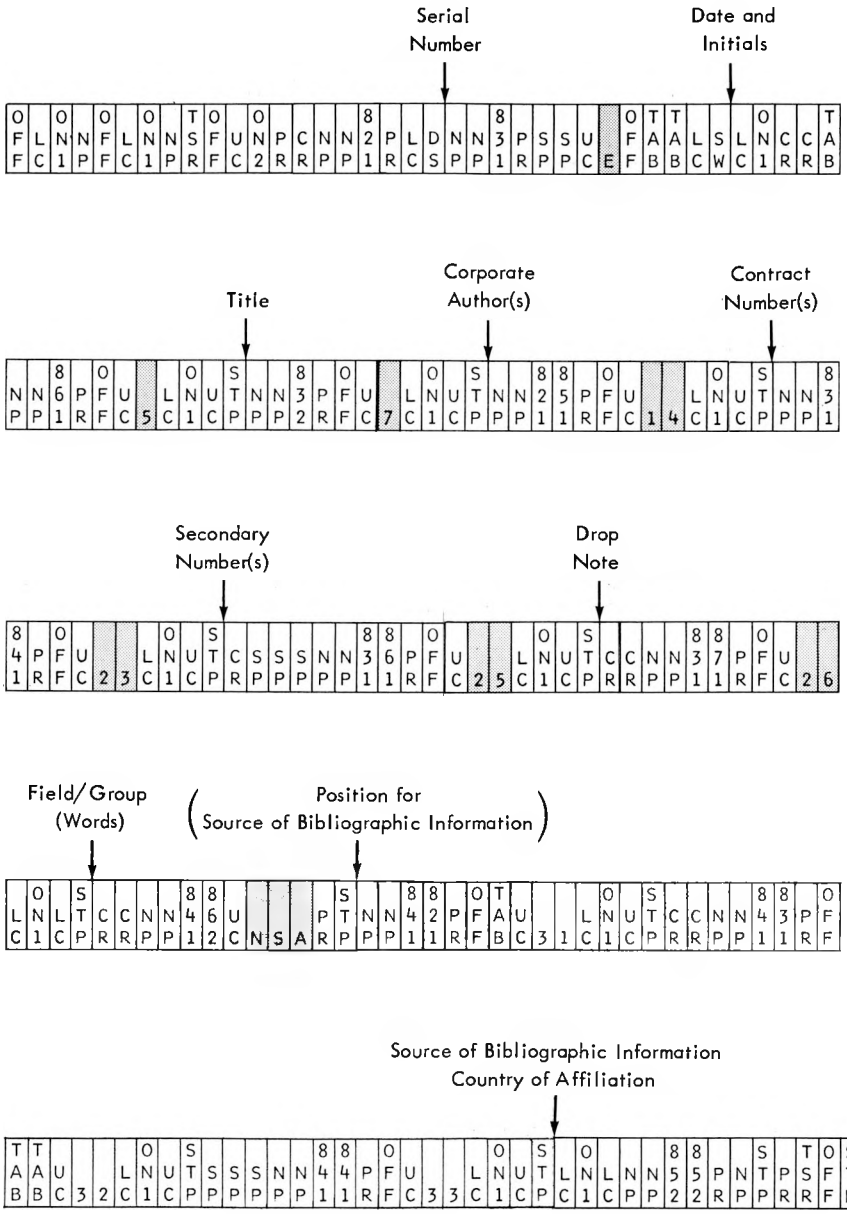
70958 E

NEUTRON AND GAMMA SENSITIVE IONIZATION CHAMBER/Q-2289/ (Engineering Materials). (Oak Ridge National Lab., Tenn.). (CAPE–1273).
3 drawings.

Neutron and gamma sensitive ionization chamber

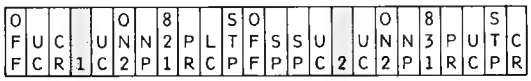
617 1000 DTIE; US

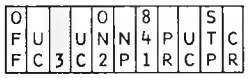
Program Tape

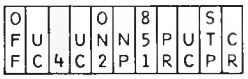


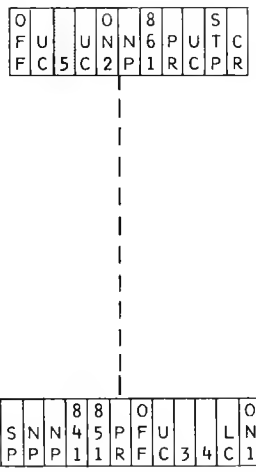
4-8 Error Correction

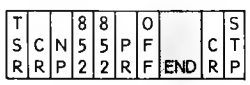
Program Tape











Chapter 5

DESCRIPTIVE CATALOGING ELEMENTS — COMPOSITION RULES AND OTHER DETAILS

5-1 Serial Number

5-1.1 *Delimiter Subscript 1*

The Serial Number is used for all literature.

5-1.2 *Composition Rules*

Serial Numbers will be selected automatically from the Selectadata machines linked to each Flexowriter. A printed subscript will not be typed on the form.

5-1.3 *Indexing Information*

Serial Numbers will not be used for indexes, being intended for temporary identification only. *NSA* abstract numbers will be associated with serial numbers in the final computer editing process.

5-2 Type of Item

5-2.1 *Delimiter Subscript 2*

The Type of Item is composed for all literature.

5-2.2 *Composition Rules*

A letter code will be reproduced from the appropriate program tape to indicate the type of item being descriptively cataloged. The letter codes for the various types of items are as follows:

R— reports and individual conference papers (note that the letter X is typed after the R to identify progress reports)
J — journal literature
P— patents
T— translations
C— non-AEC unnumbered conference papers
B— books and unnumbered theses
E— engineering materials lists (CAPE's)

The Type of Item will appear at the right of the serial number on the same line. (Note: The Date and Cataloger's Initials will appear at the right of Type of Item on the same line; this element is selected automatically from the auxiliary Selectadata tape.) This element will not reproduce into the computer tape; thus a machine-readable record of it will not be maintained.

5-2.3 *Indexing Information*

The Type of Item is not required for indexing.

5-3 Classification

5-3.1 *Delimiter Subscript 3*

The Classification is composed for report literature only.

5-3.2 *Composition Rules*

The Classification is to be entered for all report literature items: i.e., Uncl, Conf, Conf-RD, Secret, Secret-RD, OUO, etc. It is imperative that consistent forms of classification terms be used by all catalogers.

The Classification will be reproduced from the program tape and typed first in the citation area, flush left.

5-3.3 *Indexing Information*

The Classification is not required for indexing.

5-4 Report Number

5-4.1 *Delimiter Subscript 4*

The Report Number is composed for reports and translations.

5-4.2 *Composition Rules*

Technical reports are commonly assigned an identification number that most often consists of an alphabetic prefix and a series of digits. Report numbers are generally assigned by the originating organization. The report number is most useful for the proper identification, control, filing, and general referencing of a report. It is also a necessary tool for the accountability of classified documents. A comprehensive list of report number codes used by DTIE is contained in *Report Number Series Used by the Division of Technical Information in Cataloging Reports* (TID-85).

Reports received by DTIE with acceptable, nonduplicating numbers usually retain these numbers in all subsequent processing and referencing activities. Reports received without numbers or with numbers in a duplicating series are assigned a unique number usually in the TID- series if a project report or in the NP- series if a nonproject report, or they are cataloged under the AD- or NASA- number if DOD or NASA reports. See Sec. 5-23 for a discussion of Secondary Numbers.

The report number is enclosed in parentheses at the upper left of the citation area. It follows the Classification.

Each report number (except as explained below for numerical report numbers) will include a single en dash (upper-case position on the hyphen key) so that the computer will have a recognizable code with which to identify the prefix for the report number index, i.e., to allow the prefix portion to be printed one time only in the index. All other dashes in the report numbers will be hyphens.

A report number prefix authority is maintained as a machine-readable file. The prefix includes all characters up to the en dash. Some prefixes include numeric characters. An example is a report number prefix for a conference number:

CONF-671004–

The cataloger must ensure that all report number prefixes used are represented in the authority. When a letter is used to the right of an en dash following a number, it should be preceded and followed by a hyphen (unless the letter is the last character in the report number):

ABC–10PB10	ABC–10-PB-10
ABC–10PB	ABC–10-PB
ABC–10P	ABC–10-P
UCSD–10P1024	UCSD–10-P-1024
PHS–999RH26	PHS–999-RH-26

In almost all cases the analytics of a report are shown by the inclusion of page numbers after the report number. The following style has been chosen so that the analytics will be suppressed in the report number index by the computer:

$_4$(KAPL–6159, pp 14-62)

Commas will not be used for any other purpose in report numbers.

If the analytics of a report are designated by Pt., Sect., pp, etc., and if separate availability is to be shown for these portions of the report, the Report Number must be composed as follows:

$_4$(KAPL–M–5143 (pp 4-36))
$_4$(ORNL–3795(Pt.1))

The same style is used if a portion of a report is cataloged without a lead abstract for the complete report.

Report numbers may enumerate parts, revisions, volumes, editions, etc. Only Arabic numerals will be used to enumerate the following portions of reports:

parts (Pt.), volumes (Vol.), supplements (Suppl.), revisions (Rev.), appendixes (App.), editions (Ed.), indexes (Index), deletions (Del.), extracts (Extract), and sections (Sect.).

All such portions of reports will be typed adjacent to the right side of the report number and will be enclosed in parentheses. Some subdivisions of reports may not require any numerals. For example:

$_4$(NP–1404(Pt.1)(Suppl.))

Conference report numbers are assigned to all conference literature included in *NSA*. The prefix is CONF-year, month, sequence number. If individual papers are received first, the single prefix is extended to include each paper numbered as received. The first paper would be numbered CONF-650101–1. (The paper number will be preceded by an en dash.) As additional papers are received, they will be assigned consecutive paper numbers in the series, CONF-650101–1, –2, –3, –4, etc. Conference proceedings, cumulations of preprints, and cumulations of abstracts are denoted by an appropriate report number suffix following the en dash, e.g., –Vol. 1, –Bk. 1, –Pt. 1, and –Abst. Individual conference papers will not be cataloged when they are received after their receipt within a cumulation.

In the case of *numerical report numbers*, i.e., those beginning with numerals, the first digit of the report number must be preceded by a lower-case shift since the Flexowriter halts in upper case at the report number delimiter. It is important that this lower-case shift precede the first digit of numerical report numbers. Hyphens will be used exclusively, instead of en dashes, for all dashes in numerical report numbers.

5-4.3 *Indexing Information*

Report numbers will be associated with each author of the cataloged item, the title/short title, and *NSA* volume and abstract number in the author index.

In the preparation of the corporate author index, the report number will be associated with the corporate code, *NSA* volume and abstract number, and title/short title. The corporate code will be associated with an authority file of all corporate authors to facilitate printing corporate author entries.

In the report number index, the report number will generally be associated with the *NSA* volume and abstract number and availability. The only exceptions will be report numbers with page numbers preceded by a comma and space. The report numbers of some analytics will denote sections, parts, etc., rather than pages. These report numbers may appear in the report number index.

Numerical report numbers will be sorted so that they will appear at the beginning of the report number index.

5-5 Title

5-5.1 *Delimiter Subscript 5*

The Title is composed for all literature.

5-5.2 *Composition Rules*

The cardinal rule for any title is that it must be meaningful. Some examples of non-meaningful titles which are not acceptable are: "Progress Report for _____ ," "Report for the Period _____ ," "Final Report," "Technical Memo No. _____ ," etc. If a report is identified only by any of the preceding examples, the title must be altered or expanded to make it meaningful. If title information is supplied, it is enclosed in brackets, e.g.,

$_5$[ARMY GAS-COOLED REACTOR SYSTEMS PROGRAM], Monthly Progress Report for July 1965.

The main title (or prime identification, i.e., the information that most accurately identifies the document in hand) is typed in full capitals. Subtitles (subordinate information about the title) are typed in upper and lower case. For example:

$_5$IDAHO CHEMICAL PROCESSING PLANT: RADIOACTIVE WASTE DISPOSAL PROJECTS. Technical Progress Report [for] October–December 1965.

Foreign titles are translated so as to convey the meaning in English as accurately as possible. When the text of the item being cataloged is in a foreign language, the original or transliterated title is typed in full capitals, followed by the translated title in parentheses in upper and lower case. *The exception to this rule is the journal article.* Only a translated title is used for a journal article. It is typed full capitals.

Examples:

INTRODUKTION TILL GEOKOSMOFYSIKEN. (Introduction to Geocosmic Physics). Hultqvist, Bengt. Stockholm, Natur och Kultur, 1967. 271p. Sw. Crs. 31.50 (paperback), Sw. Crs. 36.50 (bound). (In Swedish). (NP-17227).

DURATION OF THE EXISTENCE OF SPORADIC E OVER KIEV. Bondarenko, V. I. (Inst. of Geophysics, Kiev). Geofiz. Astron. Inform. Byull., No. 9, 134-6(1966). (In Russian).

Titles of English language articles and reports are to appear as they do on the document. Exceptions are:

(1) Mass numbers will appear at the left of the element symbol
(2) Characters listed in the table of special characters in Sec. 2-3.7 will be composed as noted

British spelling will be followed when it is used in the document or article being cataloged.

5-5.3 *Indexing Information*

The Title appears in the author and corporate author indexes unless a short title is composed.

5-6 Author(s)/Inventor(s)

5-6.1 *Delimiter Subscript 6*

Author(s) and/or Inventor(s) are composed for all types of items except Engineering Materials (CAPE's).

5-6.2 *Composition Rules*

All authors are included in the cataloging. Personal authors' names are given as fully as they appear on the item being cataloged. However, all titles and degrees are omitted. An author (or authors) follows the title in cataloging sequence and will be composed in inverted order, i.e., last name first followed by name or initials as given in the article. Multiple authors will be separated by semicolons. It is imperative that the author's name be properly arranged at the time of composition, inasmuch as this is the arrangement the computer will recognize. The following are examples of correct modes of input and of some of the most commonly encountered name problems:

$_{6}$Adams, J. A.; McReynolds, James; Van Hippel, F.; Van Der Plas, Theo; Miller, J. A. Jr.; Afgan III, N.

Authors' names given in Slavic languages are transliterated according to the scheme adopted by the British Standards Association. See Appendix A for the transliteration table used in DTIE. Names in *Russian literature* that have been translated by the publishers should be reconciled with DTIE practice.

Care is to be exercised in cataloging items by French authors not to include the "M." for Monsieur as an initial for the author.

The German preposition "von" should not be used as part of the author's name.

Personal names may be found on reports and published literature on the cover, the title page, or at the end of the document, book, or article. These names may be one or more of the following:

(1) Unaccompanied by any qualifying words but by location may be assumed to be the author(s) of the item
(2) Identified as the person(s) preparing the report
(3) Identified as the compiler(s) or editor(s)
(4) Identified as the person(s) submitting the report
(5) Identified as the principal investigator(s)
(6) Identified as the person(s) doing the work
(7) Identified as the project manager(s) or director(s)

Any name or names in items 1, 2, and 3 are included in the descriptive cataloging. If no names of types 1, 2, or 3 are found, then any name of type 4 will be picked up. If none of type 4 is found, then any name of type 5 will be used. Names of types 6 and 7 are not used in cataloging.

All diacritical marks are omitted from the names of personal authors. The following substitutions are made:

	For	*Use*
Germanic	ä	ae
Germanic	ö	oe
Germanic	ü	ue
Scandinavian	ø	oe

The inventor is to patent literature what an author is to other types of literature. The inventor (or inventors) follows the patent title in cataloging sequence and is composed in inverted order. If multiple inventors are given, they are to be composed as follows:

$_{6}$Long, Everett; Packman, Gordon; Knights, H. C.; Jerkings, Ernest E.

For names such as O'Roark and O'Connor, special coding must be provided. The apostrophe does not appear on the keyboard and is manufactured by inserting a stop code, rolling the platen one-half vertical space, striking the comma, inserting a stop code, and returning the platen to its proper position. The stop codes in conjunction with the comma ordered in this fashion can be interpreted by the computer as an apostrophe and will be so printed.

A semicolon followed by one space will separate names. The conjunction *and* will not be used. Words and abbreviations such as ed. and comp. will be placed in parentheses in order that they may be suppressed in author indexes.

5-6.3 *Indexing Information*

Authors are required for the author indexes and must be associated with the title/short title, *NSA* volume and abstract number, and the report number (if given).

5-7 Corporate Author(s)

5-7.1 *Delimiter Subscript 7*

The Corporate Author is composed for reports, translations, and Engineering Materials (CAPE's).

5-7.2 *Composition Rules*

The corporate author is the institution, society, industrial organization, government agency, or contractor that is technically, editorially, or contractually responsible for the contents of the report. Corporates are to be standardized in accordance with Committee on Scientific and Technical Information rules for descriptively cataloging corporate authors. (These rules are found in *Standard for Descriptive Cataloging of Government Scientific and Technical Reports,* Revision No. 1, Committee on Scientific and Technical Information, Federal Council for Science and Technology, October 1966. Available from the Clearinghouse for Federal Scientific and Technical Information (AD-641092; PB-173314).

When there is only *one corporate author,* delimiter subscript 7 precedes it. The corporate appears immediately after the delimiter subscript, which follows the last author. The corporate is in parentheses. For example:

$_6$Holmes, John T.; Baerns, Manfred G. $_7$(Argonne National Lab., Ill.).

When there is *more than one corporate author,* delimiter subscript 7 precedes the corporate that follows the last-named author, as follows:

(1) If there is *only one personal author* and multiple corporates, the corporates are placed in parentheses following the author's name. Three spaces (6 units) separate the author's name from the corporate. The corporates are preceded by the delimiter subscript 7. Each corporate is ended by a period followed by three spaces. Multiple corporates are used only if there is an indication that some of the work reported was performed at each of the corporate addresses.
   Example:
   $_6$Smith, J. $_7$(Corporate 1. Corporate 2. Corporate 3.).

(2) If there is *more than one personal author,* the corporate (or corporates) of each follows the appropriate author's name. The information about each author, that is, his name and corporate(s), is separated from the following author by a semicolon and space (2 units). Note, however, that the delimiter subscript follows the *last* author only (preceding the last corporate or corporates).
   Example:
   $_6$Doe, J. (Corporate 1. Corporate 2.); Roe, R. $_7$(Corporate 3. Corporate 4.).

(3) If more than one author has the same corporate, the corporate is placed after the name of the last author affiliated with that corporate. The personal authors may be rearranged to bring together all those affiliated with one corporate. The senior author must, however, always be retained in the first position.
   Example:
   Doe, J.; Roe, R. (Corporate 1.); Smith, A. $_7$(Corporate 2.).

5-7.3 *Indexing Information*

The Corporate Author is not required for indexing. Corporate authors will be obtained for indexes by means of the Corporate Code (Sec. 5-32.3).

5-8 Affiliation

5-8.1 *Delimiter Subscript 8*

The Affiliation is composed for journal literature, translations (of journal items only), and non-AEC unnumbered conference papers.

5-8.2 *Composition Rules*

The purpose of the affiliation statement is to give the user an address for use in communicating with the author. The affiliation follows the author in cataloging sequence and is placed in parentheses. An affiliation may or may not be present in the article to be cataloged.

An item may have multiple authors and affiliations. In this event the affiliation (or affiliations) of only the first author is given unless all authors have the same affiliation. All authors, except the senior author, may be rearranged to bring together those with the same affiliation. In any case, delimiter subscript 8 follows the last author.

Examples:

$_{6}$Doe, J. (Affiliation 1. Affiliation 2.); Roe, R. $_{8}$
$_{6}$Doe, J.; Roe, R. $_{8}$(Affiliation.).

The affiliation should be given either in the language of the country in which the organization is located or in English. Thus, if a Russian author is writing in a French journal, his affiliation should be given either in transliterated Russian or in English, not in French.

5-8.3 *Indexing Information*

The Affiliation is not required for indexing.

5-9 Assignee

5-9.1 *Delimiter Subscript 9*

The Assignee is composed for patents only.

5-9.2 *Composition Rules*

The Assignee appears in parentheses and is composed as follows:

$_{9}$(to U. S. Atomic Energy Commission).
$_{9}$(to Honeywell Inc.).

5-9.3 *Indexing Information*

The Assignee is not required for indexing.

5-10 Translation Note

5-10.1 *Delimiter Subscript 10*

The Translation Note is composed for patents, journal literature, theses, and translations of all report literature and books.

5-10.2 *Composition Rules*

The placement of the Translation Note in descriptive cataloging follows the translated Title, Author, Affiliation, or Corporate Author. With the exception of the Title, these elements may or may not be present.

The translation note consists of a variable statement about the document translated. This note usually will be in the form of one of the following:

(1) $_{10}$Translated from$_{11}$
(2) $_{10}$Translated by (name of publisher or translator's name and affiliation with affiliation in parentheses) from$_{11}$
(3) $_{10}$Translated for (followed by name of institution) from$_{11}$
(4) $_{10}$Translation of$_{11}$

The phrase chosen for the translation note may be as comprehensive as required to explain adequately for whom and by whom the translation was done.

Note the following rules to help ensure consistency in cataloging:

(1) Use "from" preceding page numbers.
(2) Use "of" preceding titles.
(3) Use "pp" to indicate pages within a document.
(4) Avoid phrases such as "a publication of" preceding publishers.

Following the translation note are specific details about the translated items, each of which must be preceded by an appropriate delimiter code, depending upon the type of item translated, i.e., report, document, journal, patent, book, etc.

Examples:

Originator's Report Number or Patent Number (Delimiter subscript 11)
Journal Citation (Delimiter subscript 15)
Source Article (Delimiter subscript 17)

5-10.3 *Indexing Information*

The Translation Note is not required for indexing.

5-11 Patent Number(s) (or Originator's Report Number)

5-11.1 *Delimiter Subscript 11*

The Patent Number is composed for patents and translations of reports.

5-11.2 *Composition Rules*

The Patent Number follows the Assignee of patents in descriptive cataloging sequence. The patent number element is also used for report numbers of translated reports or translated patents. In such instances patent numbers follow the translation notes. The country of patent origin is included with the patent number.

A typical patent number entry is:

$_{11}$U. S. Patent 3,158,546.

The Report Number of a typical translated item is entered after the translation note as follows:

$_{10}$Translation of report $_{11}$IAE-667.

5-11.3 *Indexing Information*

The Patent Number is associated with the *NSA* volume and abstract number in the report number index. The Originator's Report Number is associated in the report number index with the *NSA* volume and abstract number and with the report number of the translation.

5-12 Date (Reports)

5-12.1 *Delimiter Subscript 12*

The Date (Reports) is composed for reports only.

5-12.2 *Composition Rules*

When the issue date is given on the title page or cover of a report, this date is used in the descriptive cataloging. If no date is given on the title page or cover, one of the following may be used:

(1) Date work completed
(2) Date submitted
(3) Date typed

If none of the above dates are given, a date may be supplied.

The date for report literature appears in cataloging sequence after the corporate author. Format of the date is month, day, and year. For example:

$_{12}$Dec. 8, 1964. $_{12}$Dec. 1964.

If the date is supplied by DTIE, it should appear in brackets: [1966]. If no date is obtainable, indicate as follows: [nd].

5-12.3 *Indexing Information*

The Date (Reports) is not required for indexing.

5-13 Date(s) (Patent)

5-13.1 *Delimiter Subscript 13*

The Date(s) (Patent) is composed for patents only.

5-13.2 *Composition Rules*

One or more of the following dates are usually found on patents:

(1) Issue date
(2) Publication date
(3) Priority date
(4) Application date (file date)

The date the patent was issued is used when it is given. If the issue date is not given, the publication and/or priority dates are used. Neither the issue date nor the publication date is identified in the cataloging, but the priority date (when used) is identified.

All date information should be cataloged and should be composed as follows:

$_{11}$German Patent 1,180,071. $_{13}$Oct. 22, 1964.
Priority date Mar. 17, 1961, Switzerland.

5-13.3 *Indexing Information*

The Date(s) (Patent) is not required for indexing.

5-14 Contract Number

5-14.1 *Delimiter Subscript 14*

The Contract Number is composed for reports, journal literature, books, and Engineering Materials (CAPE's).

5-14.2 *Composition Rules*

If the contract number is deduced from the corporate author or other information, it will appear in brackets as follows:

$_{14}$Contract [AT(04-3)-368].

If the contract number is given, it is composed without enclosures except as they may exist in the contract number itself, as follows:

$_{14}$Contract AT(29-1)-789.

5-14.3 *Indexing Information*

The Contract Number is not required for indexing.

5-15 Journal Citation

5-15.1 *Delimiter Subscript 15*

The Journal Citation is composed for journal literature, translations, and analytics of books.

5-15.2 *Composition Rules*

The Journal Citation appears after the Contract Number in the cataloging sequence.

The journal citation includes the journal title abbreviation, volume, issue number, page number, and date.

The journal title abbreviation is entered according to the rules given in *American Standard for Periodical Title Abbreviations*, Z 39.5-1963, published by the United States of America Standards Institute. Catalogers will use the DTIE publication, *Serial Titles Cited in Nuclear Science Abstracts* (TID-4579) to identify the correct abbreviated form of the title.

Journals which are treated analytically and which provide a large number of articles in a given issue should be considered for remote-composition handling through the use of an auxiliary tape and the corresponding program tape. The procedure is to encode the complete journal citation (with the exception of pages) and place the coded tape in the Selectadata reader, which will then automatically punch and print the citation information when signalled by a switch code in the program tape. A typical journal citation is as follows:

$_{15}$Nucl. Instr. Methods, 32: 37-44 (Jan. 1965).

This cataloging element may also be used as above for book analytics. The entry includes the pages of the analytic, the book title, author or editor, and (if available) the publisher, and year of publication. For example:

$_{15}$pp 331-53 Radioactive Fallout from Nuclear Weapons Tests. Alfred W. Klement, Jr. (ed.). Washington, D. C., U. S. Atomic Energy Commission, 1965.

5-15.3 *Indexing Information*

The Journal Citation is associated with a secondary number which cites a journal as the source of availability in the report number index.

5-16 Series Title

5-16.1 *Delimiter Subscript 16*

The Series Title is composed for books.

5-16.2 *Composition Rules*

A series title is sometimes assigned to a set of books or conference proceedings in addition to the titles of the individual volumes or parts. For example:

$_{5}$COSMIC RAYS. $_{6}$Cranshaw, T. E. $_{1416}$Oxford Library of the Physical Sciences.

5-16.3 *Indexing Information*

The Series Title is not required for indexing.

5-17 Source Article

5-17.1 *Delimiter Subscript 17*

The Source Article is composed for translations of books, theses, and other nonserial publications. The source article is used for translations of all published literature, with the exception of journal articles.

5-17.2 *Composition Rules*

The Source Article comprises as a minimum the title of the item translated. It may also include the pages, publisher, city, and publication year of the item translated.

Examples:

$_{10}$Translated from $_{111517}$pp 3-192 of Litye iz Tugoplavkikh Metallov, Machine-Building Publishing House, Moscow-Leningrad, 1964.

$_{10}$Translation of $_{111517}$Thermoyadernoe Orozhie, Military Publishers of the Ministry of Defense, Moscow, 1958.

5-17.3 *Indexing Information*

The Source Article is not required for indexing.

5-18 Publisher and Year Published

5-18.1 *Delimiter Subscript 18*

The Publisher and Year Published cataloging element is composed for books and theses treated as books, i.e., unnumbered theses.

5-18.2 *Composition Rules*

The book Publisher and Year Published follows the Series Title (or Author if no Series Title exists) in descriptive cataloging sequence. Note that the address (city and sometimes state) precedes the publisher.

Example:

$_{18}$New York, W. A. Benjamin, Inc., 1965.

This cataloging element is also used for theses composed as books. The entry includes the address (city and state) and the name of the university granting the degree. For example:

$_{18}$Berkeley, Calif., Univ. of California, 1964.

5-18.3 *Indexing Information*

The Publisher and Year Published is given as availability information for books with a secondary number unless availability information appears in delimiter 24.

5-19 Society, Date, Pages, and Price of Preprint

5-19.1 *Delimiter Subscript 19*

The Society, Date, Pages, and Price of Preprint cataloging element is composed for non-AEC unnumbered conference papers only.

5-19.2 *Composition Rules*

This cataloging element is used for non-AEC unnumbered conference papers that are available from professional societies. For these items the following information should appear if it is known:

(1) Name and address (city only) of the society
(2) Year
(3) Preprint number
(4) Pages
(5) Price

For example:

$_{19}$New York, American Inst. of Aeronautics and Astronautics, 1964, Paper No. 64-682, 14p. $1.00.

5-19.3 *Indexing Information*

The availability from societies is not included in the report number index because the items are available from the society for only a limited period. The more permanent availability will be provided by Availability (see Sec. 5-24).

5-20 Pages

5-20.1 *Delimiter Subscript 20*

The Pages cataloging element is composed for reports, translations, and books.

5-20.2 *Composition Rules*

Pages are delimited only to allow their appearance in, and to complete, the citation. Depending on the cataloged item, they may appear after one of the following:

(1) The contract number of reports
(2) The source article of translations
(3) The publisher and date of books

The style for this element is as follows:

$_{20}$240p.

5-20.3 *Indexing Information*

The Pages cataloging element is not required for indexing.

5-21 Price

5-21.1 *Delimiter Subscript 21*

The Price is composed for books only.

5-21.2 *Composition Rules*

The Price of books follows the number of pages in cataloging sequence.

The Price will be obtained from the item being cataloged, usually from the title page or cover.

Prices may include a distinction between different forms of the document.

Examples:

$_{21}$$13.00 (cloth edition); $8.95 (paperback).
$_{21}$$0.75.

5-21.3 *Indexing Information*

The Price of books with secondary numbers is required for the report number index.

5-22 Language

5-22.1 *Delimiter Subscript 22*

The Language is composed for all types of items except Engineering Materials (CAPE's).

5-22.2 *Composition Rules*

The language of all non-English articles will be spelled out and enclosed in parentheses. If a compilation has articles in two different languages, one of which may or may not be English, both are given. If more than two languages are used, the words, "In several languages," will be enclosed in parentheses.

Examples:

$_{22}$(In Russian)
$_{22}$(In English and French)
$_{22}$(In several languages)

5-22.3 *Indexing Information*

The language is not required for indexing.

5-23 Secondary Number(s)

5-23.1 *Delimiter Subscript 23*

The Secondary Number is composed for all items except patents.

5-23.2 *Composition Rules*

Within DTIE, a secondary number is interpreted as being any recognizable report number applying to the cataloged item which is not the master number in DTIE files.

Secondary numbers may apply to any class of documents except patents. One or more secondary numbers may be composed. A single set of parentheses should be used to enclose all secondary numbers. Multiple secondary numbers are separated by a semicolon and one space.

Typical examples of secondary numbers are:

$_{23}$(FZK–9-190; AD–606674)
$_{23}$(CONF-650401–2)
$_{23}$(CAPE–1147)

Report number prefixes as found in the report number prefix authority must be used for secondary numbers as well as for report numbers. (See Sec. 5-4.) The computer will reject secondary numbers whose prefix does not appear in the report number prefix authority.

5-23.3 *Indexing Information*

Secondary numbers are used in the production of the report number index. Indexing information will be obtained as follows:

(1) For reports and translations, the Secondary Number will refer to the primary Report Number and the *NSA* volume and abstract number.
(2) For journals literature, the Secondary Number will be associated with the Journal Citation.
(3) For books, the Secondary Number will be associated with the Publisher and Year Published and the Price.
(4) For non-AEC unnumbered conference papers, the Secondary Number will be associated with Availability.
(5) For CAPE's, the Secondary Number will be associated with the mnemonic EM, for Engineering Materials, generated by a computer.

5-24 Availability

5-24.1 *Delimiter Subscript 24*

The Availability element is composed for reports, translations, non-AEC unnumbered conference papers, and books.

5-24.2 *Composition Rules*

Availability may be provided for any item cataloged for *NSA*, but, because of the nature of the various types of information, it will be obtained for indexing by the computer from different elements.

The following are representative examples of Availability:

$_{24}$ORNL Free.
$_{24}$Dep. CFSTI.
$_{24}$Dep. CFSTI. UK 4s.6d.

Each availability statement will be closed with a period. If one or more availability statements follow the first one, the subsequent statements are preceded by two spaces (four units).

5-24.3 *Indexing Information*

The Availability will be associated with Report Number (and Secondary Numbers) and the *NSA* volume and abstract in the report number index.

5-25 Drop Note

5-25.1 *Delimiter Subscript 25*

The Drop Note may be composed for all types of items except patents.

5-25.2 *Composition Rules*

The Drop Note is used to provide additional information about a descriptively cataloged item. It is to be printed as a part of the citation, but it is not intended for computer manipulation. If the item being cataloged is a thesis, this information will be included in the drop note.

A typical Drop Note is as follows:

$_{25}$From National American Institute of Mechanical Engineers Meeting, Chicago.
$_{25}$Thesis.

5-25.3 *Indexing Information*

The Drop Note is not required for indexing.

5-26 Field/Group (Words)

5-26.1 *Delimiter Subscript 26*

The Field/Group (Words) element is composed for all types of items.

5-26.2 *Composition Rules*

The DTIE authority list of Field/Group terminology is adapted from the *COSATI Subject Category List.** This modified authority is used to permit the precise categorization of nuclear science information. Field/Group (Words) is to be identical with the DTIE authority list in both spelling and punctuation. If more than one Field/Group Word is assigned, the words are to be separated by a semicolon and a space. For example:

$_{26}$physics; heat transfer

5-26.3 *Indexing Information*

The Field/Group (Words) element is not required for indexing.

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*Paul C. Janaske, Donald D. Davis, Ann F. Painter, et al., *COSATI Subject Category List,* Report AD-612 200, Federal Council for Science and Technology, December 1964.

5-27 Field/Group (Codes)

5-27.1 *Delimiter Subscript 27*

The Field/Group (Codes) element is composed for reports and translations.

5-27.2 *Composition Rules*

The Field/Group (Codes) will be separated by a comma and a space if more than one is required.

Example:

$_{27}$18D, 11F, 14, 18J

5-27.3 *Indexing Information*

The Field/Group (Codes) is not required for indexing. This element is included to assist other documentation units in selecting the nuclear science literature within given subject areas.

5-28 Distribution

5-28.1 *Delimiter Subscript 28*

The Distribution is composed for report literature and translations.

5-28.2 *Composition Rules*

The AEC category distribution information is obtainable from OTI Form 315 and is equivalent to the distribution categories described in *Standard Distribution for Unclassified Scientific and Technical Reports*, TID-4500. The cataloger will compose as follows: For standard distribution, STD-(category); for micronegative distribution, MN-(category); for printing, PNT-(category); and for limited distribution, LTD-(category).

Examples:

$_{28}$STD-41
$_{28}$MN-16
$_{28}$PNT-12
$_{28}$LTD-36

5-28.3 *Indexing Information*

The Distribution is not required for indexing.

5-29 Report Origin

5-29.1 *Delimiter Subscript 29*

The Report Origin is composed for report literature and translations of numbered reports.

5-29.2 *Composition Rules*

The letters P or NP are used to distinguish between project and nonproject reports, respectively.

5-29.3 *Indexing Information*

The Report Origin is not required for indexing.

5-30 Selected For:

5-30.1 *Delimiter Subscript 30*

The Selected For: element is composed for all types of items, i.e., for all literature.

5-30.2 *Composition Rules*

This element permits the assignment of an abbreviation for the journal in which the document is to be abstracted. Only the letters *NSA* will be entered initially, but *ACR* will at some future date be used for classified documents.

Note that the letters *NSA* will be typed (and punched) automatically at the right of Report Origin from the program tape.

5-30.3 *Indexing Information*

The Selected For: element is not required for indexing.

5-31 Short Title

5-31.1 *Delimiter Subscript 31*

The Short Title is composed for all literature for which the Title cannot be used in the personal and corporate author indexes. It is required any time coding is used in the title.

5-31.2 *Composition Rules*

The Short Title will be supplied by an evaluator if the full title is not suitable for use in the personal and corporate author indexes. If the full title includes a foreign language title, the appropriate portions of the English title will be supplied as a short title. If the entire title includes a subtitle, a short title will be supplied. Short titles will also be supplied for items with lengthy titles and for items with characters in the full title which cannot be appropriately converted by a computer program for computer composition of short titles.

A short title need not be written if the full title includes only an initial upper case letter, on-the-line numerals, hyphens, colons, semicolons, and periods.

A short title must be written if any of the following are in the full title: subscripts, superscripts, parentheses, brackets, the slash, the comma, the asterisk, the plus, or any character available on the computer print chain but not on the Flexowriter keyboard, e.g., the apostrophe.

The following is a list of miscellaneous items which, when used in the short title, should be set in capital letters or in capital and lower case letters as shown: abbreviations for chemical names such as AET, ATP, DNA, EDTA, RNA, and TBP; acronyms such as ICSU, NASA, OMRE, and SNAP; alloys such as Magnox AL and Zircaloy-2; computer programs such as AISITE and MUFT; certain energy designations such as Bev, Gev, and Mev; named effects, equations, methods, and theories such as Compton effect, Boltzmann equation, N/D method, and Brueckner theory; proper nouns for individuals such as Coulomb, Teller, and Van de Graaff and for geographic names such as Chicago, Nevada, and New Zealand; temperature scale designations such as C for centigrade and F for Fahrenheit; A and Z for atomic mass and atomic number; B, D, K, and X for mesons; E, D, and F regions of the atmosphere; EPR for electron paramagnetic resonance; ESR for electron spin resonance; K, L, and M for electron shells; K and S matrices; MHD for magnetohydrodynamics; NN for nucleons; and V and S particles. The form of various other expressions such as CPT and SU(3) can be determined from their usage in the article.

5-31.3 *Indexing Information*

The Short Title will appear in the personal and corporate author indexes if a short title is entered. For those items not requiring a separate shorttitle, the complete title will appear in the personal and corporate author indexes with all but the first character converted to lower case.

5-32 Corporate Code

5-32.1 *Delimiter Subscript 32*

The Corporate Code is composed for report literature, translations, and books having technical societies as publishers.

Corporate Codes should be composed for the following types of literature:

(1) Numbered Reports, translations of reports, and AEC and other Government agency reports to the Congress, e.g., semiannual, annual, and special AEC reports to the JCAE.
(2) Congressional Papers, e.g., JCAE Hearing on Fallout and JCAE Reports to the Congress.
(3) Monographs:
  (a) Sponsored by societies, associations, academies, and other nonprofit organizations.
  (b) Published by industrial concerns.
  (c) *Not* those published and sponsored by commercial book concerns and by university presses.
(4) Proceedings of meetings, symposia, colloquia, conferences, etc.
(5) Government Documents (U. S. and Foreign) issued serially or as separates, e.g., U. S. Geological Survey Bulletins.
(6) Books. Those published by commerical publishers and university presses are *not* composed.
(7) Theses.
(8) Items cataloged by a lead abstract where separate abstracts are also prepared for the included papers. The corporate author will not be repeated for the individual papers unless the corporate relation is indicated either in the item or in the publication or is known. If corporate credit is given, the approved corporate entry must be included in the descriptive cataloging elements Corporate Author, Translation Note, or Publisher and Year Published.

5-32.2 *Composition Rules*

Corporate Codes should be separated by a semicolon and a space. For example:

$_{32}$702 4300; 342 1810

The Corporate Code for a lead abstract will not be credited to each item separately cataloged (analytic) from the item unless the same corporate relation is indicated in the separately cataloged part or the author's relation to the corporate author is otherwise indicated or known.

5-32.3 *Indexing Information*

Corporate codes will relate to a machine-readable file of corporate authors. All corporate authors will be associated with the Title/Short Title, *NSA* volume and abstract number, and Report Number in the corporate author index. Note that there may be no report number when a book, congressional paper, monograph, etc., is cataloged.

5-33 Source of Bibliographic Information; Country of Affiliation

5-33.1 *Delimiter Subscript 33*

The Source of Bibliographic Information; Country of Affiliation is composed for all literature.

5-33.2 *Composition Rules*

This is a two-part element, the two units being separated by a semicolon and space. The first unit consists of a code designating the source from which DTIE obtained the abstract or information about the article. This could be an organization cooperating under the International Nuclear Information System (INIS) program, a DTIE contractor, a secondary source, or DTIE itself. A list of the codes and their meaning is found in Appendix B.

The second unit consists of a two-alpha-character code designating the country in which the research and/or the reporting was done. A list of the country codes appears as Appendix C.

Examples:

CAN; CA
SCAN; NO
TAB; US
DTIE; UR

5-33.3 *Indexing Information*

The Source of Bibliographic Information; Country of Affiliation is not required for indexing.

5-34 CODEN

5-34.1 *Delimiter Subscript 34*

The CODEN is input for all Journal Literature (J) and Translations (T) that are translated versions of journal articles.

5-34.2 *Composition Rules*

The CODEN is a five-alpha-character code. It is composed in full caps. Descriptive catalogers in DTIE use the listing *Serial Titles Cited in Nuclear Science Abstracts* (TID-4579) as the authority for determining the correct CODEN for a particular journal title. The CODEN listed in TID-4579 have been obtained by DTIE from the Science Information Service, The Franklin Institute Research Laboratories, which is the organization that maintains the CODEN authority files.*

5-34.3 *Indexing Information*

The CODEN is not required for indexing.

*A published list of CODEN has appeared as *CODEN for Periodical Titles,* Vols. I and II. ASTM Data Series DS23A. Philadelphia, American Society for Testing and Materials, 1966.

Appendix A

SLAVIC TRANSLITERATION

British Standard Institution (BSI) System.*

Cyrillic Alphabet	Russian	Ukrainian	Wt. Russ.	Bulgarian	Serbian	Cyrillic Alphabet	Russian	Ukrainian	Wt. Russ.	Bulgarian	Serbian
А а	a	a	a	a	a	О о	o	o	o	o	o
Б б	b	b	b	b	b	П п	p	p	p	p	p
В в	v	v	v	v	v	Р р	r	r	r	r	r
Г г	g	h (g)	h (g)	g	g	С с	s	s	s	s	s
Ґ ґ	-	g	g	-	-	Т т	t	t	t	t	t
Д д	d	d	d	d	d	Ћ ћ	-	-	-	-	ć
Ђ ђ	-	-	-	-	đ	У у	u	u	u	u	u
Е е	e	e	e	e	e	Ў ў	-	-	u	-	-
Є є	-	ye (e)	-	-	-	Ф ф	f	f	f	f	f
Ё ё	ë (e)	-	ë (e)	-	-	Х х	kh	kh	kh	kh	h
Ж ж	zh	zh	zh	zh	ž	Ц ц	ts	ts	ts	ts	c
З з	z	z	z	z	z	Ч ч	ch	ch	ch	ch	č
И и	i	ȳ (i)	-	i	i	Џ џ	-	-	-	-	dž
Ї ї	-	yi (i)	-	-	-	Ш ш	sh	sh	sh	sh	š
Й й	ĭ (i)	ĭ (i)	ĭ (i)	ĭ (i)	-	Щ щ	shch	shch	-	sht	-
Ј ј	-	-	-	-	j	**Ъ ъ	″	″	″	ū (u)	-
К к	k	k	k	k	k	Ы ы	ȳ (y)	-	ȳ (y)	-	-
Л л	l	l	l	l	l	Ь ь	′	′	′	′	-
Љ љ	-	-	-	-	lj	Ѣ ѣ	ê (e)	ê	ê	ê (ye)	-
М м	m	m	m	m	m	Э э	é (e)	-	é (e)	-	-
Н н	n	n	n	n	n	Ю ю	yu	yu	yu	yu	-
Њ њ	-	-	-	-	nj	Я я	ya	ya	ya	ya	-

*Previous Nuclear Science Abstracts style, where different is given in parentheses.

**Final Ъ, now obsolete in Russian and Bulgarian, is disregarded when encountered.

Appendix B

SOURCE OF BIBLIOGRAPHIC INFORMATION CODES

Abstr. Jap. Med.	AJM	Institut International des Brevets	IIB
Abstr. Rum. Tech. Lit.	ARTL	Joint Publications Research Service	JPRS
Aerospace Med.	AM	Math. Abstr.	MAA
Air Pollut. Contr. Ass. Abstr.	APCA	Metals Abstr.	MEA
Anal. Abstr.	AA	Meteorol. Geoastrophys. Abstr.	MGA
App. Mech. Rev.	AMR	Netherlands Patent Office	NPO
Atom Doc.	AD	Norway	NORW
Aerospace Technology Div.	ATD	NSA of Japan	NSAJ
Baltimore Biological Bibliographers	DIX	NSA of Poland	NSAP
Brit. Ceram. Soc.	BCA	Occup. Safety and Health Abstr.	OSHA
AECL	CAN	Official Patent Journal	OP
CFSTI	CFST	Pakistan Sci. Abstr.	PSA
Denmark	DENM	Public Health Eng. Abstr.	PHEA
Diss. Abstr.	DA	Reactor Centrum Nederland	RCN
DTIE	DTIE	Referativnyi Zh.	RZ
Electron. Abstr. J.	EAJ	Rom. Sci. Abstr.	RSA
Excerpta Med.	EM	Sci. and Tech. Aerospace Rpts.	STAR
Finland	FINL	Sum. Articles Fr. Tech. Press	SAFT
Geophys. Abstr.	GPA	Sum. Rep. Electrotech. Lab. (Tokyo)	SREL
GeoSci. Abstr.	GA	Sweden	SWED
Hung. Tech. Abstr.	HTA	Tenn. Tech. Trans.	TTT
International Aerospace Abstr.	IAA	U.S. Gov. Res. and Dev. Rpts.	GRDR
Index Litt. Nucl. Fr.	ILNF	United Kingdom	UK
Indian Sci. Abstr.	ISA	Uranium Abstr.	UA

Appendix C

COUNTRY CODES FOR DESCRIPTIVE CATALOGING AND SERIAL RECORD

Aden	AD
Afghanistan	AF
Albania	AB
Algeria	AG
Angola	AN
Argentina	AR
Australia	AS
Austria	AT
Bahama Islands	BH
Barbados	BB
Basutoland	BS
Belgium	BE
Bermuda	BM
Bolivia	BO
Brazil	BR
Bulgaria	BU
Burma	BA
Canada	CA
Chile	CH
China (Mainland)	CI
China (Taiwan)	TA
Colombia	CO
Costa Rica	CR
Cuba	CU
Czechoslovakia	CZ
Denmark	DE
Dominican Republic	DP
Ecuador	EC
Egypt-see United Arab Republic	
El Salvador	EL
England-see United Kingdom	
Finland	FI
France	FR
Germany (East) (German Democratic Republic)	GD
Germany (West) (German Federal Republic)	GF
Ghana	GH
Greece	GR
Greenland	GL
Guatemala	GU
Hungary	HU
India	IN
Indonesia	ID
Iran	IR
Ireland, Northern-see United Kingdom	
Ireland, Republic	IL
Israel	IS
Italy	IT
Jamaica	JM
Japan	JA
Jordan	JO
Kenya	KE
Korea, South	KS
Korea, North	KN
Lebanon	LE
Liechtenstein	LI
Luxembourg	LX
Malaysia	MA
Mexico	MX
Monaco	MN
Morocco	MO
Netherlands	NE
New Zealand	NZ
Nicaragua	NA
Nigeria	NI
Norway	NO
Pakistan	PA
Panama	PN
Paraguay	PR
Peru	PE
Philippines	PH
Poland	PO
Portugal	PT
Puerto Rico-see USA	
Rhodesia, So.	RH
Rumania	RU
Scotland- see United Kingdom	
Senegal, Republic of	SK
Sierra Leone, W. Africa	SL
South Africa, Republic of	SA
Spain	SP
Sweden	SW
Switzerland	ST
Syria	SY
Taiwan-see China (Taiwan)	
Thailand	TH
Tunisia	TU
Turkey	TR
USSR	UR
United Arab Republic	UP
United Kingdom	UK
USA	US
Uruguay	UG
Vatican City State	VC
Venezuela	VE
Viet-Nam, North	VN
Viet-Nam, South	VS
Wales-see United Kingdom	
Yugoslavia	YU
Unknown	ZZ