IAEA-INIS-4

INIS:
INSTRUCTIONS FOR SUBMITTING ABSTRACTS

by

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revised by

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NOTE
This replaces the previous revisions of this document

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PREFACE

This revision of IAEA-INIS-4 provides the reader with up-to-date rules on the formal submission of abstracts to INIS, as well as a guide to the techniques of abstracting.

The INIS manual on abstracts is meant not only for (1) writers of abstracts but also for (2) those who may be guided by the abstract in selecting input (this applies particularly to long, general and multi-subject documents, or documents of borderline interest), and (3) those whose critical assessment of what constitutes a useful, acceptable and informative abstract may give rise to feedback to the document sources, and act as a guide to progressive improvement in the quality of accompanying abstracts.

TABLE OF CONTENTS

Part I: FORMAL RULES

Each record submitted to INIS consists of

1) a bibliographic description,
2) a subject description (subject categories and descriptors), and
3) an English abstract. Other language abstracts are optional.

For computer-aided input preparation a software package (FIBRE) for IBM compatible PC's is available from the INIS Secretariat. The latest version, WINFIBRE, can be used under both the DOS and WINDOWS 95 operating systems.

For the bibliographic and subject descriptions, the INIS Worksheet is used (INIS Form 1); there is a separate INIS Abstract Worksheet called INIS Form 3 (see Fig. 1) for submitting the abstract data.

INIS centres may request copies of the above mentioned software package or worksheets from the INIS Section, International Atomic Energy Agency, P.O. Box 100, A-1400 Vienna, Austria.

The abstract itself forms part of the INIS record and is entered at the pseudo-bibliographic level X. The following rules apply to the data elements of level "X", and may also be found in IAEA-INIS-1, INIS: Guide to Bibliographic Description.

Level "X" information is recorded on the Abstracts Worksheet. You should have at least one Abstracts Worksheet for each piece of literature you are reporting. Note that the number of abstracts, recorded in the second subsection of Tag 008 of the INIS record, must be at least "01".

Because INIS is an "abstract-only" database, every effort should be made to provide at least some indication of the document contents in the abstract tag.

If the piece of literature is a "short communication", e.g., a summary of conference papers, letter-to-the-editor, short note, or technical note, the English abstract should simply consist of the phrase 'Short communication'.

In addition, in these cases, literary indicator E for short communication at Tag 008 must be selected. For the rules which determine whether a piece of literature may be treated as a short communication or not, see Part 11, section B.3 (viii) on page 18.

Please note that an INIS record must be submitted for the entire publication, such as a whole book, report, or conference proceedings, in addition to the records for the individual parts (or chapters) of a book or report or individual papers of a conference proceedings which are normally submitted. This record for the publication as a whole is called the 'lead record'. It is important to have a separate abstract for the whole publication, the "leading abstract", *even* if the individual records are considered short communications (see Appendix, 12). In that case, the descriptor LEADING ABSTRACT must be selected in Tag 800.

Before completing the data elements on the Abstracts Worksheet, make sure that the same Temporary Record Number (TRN) as on the Bibliographic Worksheet has been entered at Tag 001.

001 COUNTRY | YEAR | SERIAL NUMBER — TRN

002 WORKSHEET NO. / TOTAL NO OF WORKSHEETS

INIS WORKSHEET
ABSTRACTS

4 009 [X] / [ ] (Use a separate Worksheet for each language version of the abstract)

Lang | Lang Ref Code

	Tag	Data (enter by typewriter only)
Abstract	860	

Abstracter: Puncher:

Proofreader: Date Completed:

A-16/Rev.1 (Oct.92) INIS Form 3 (Rev.1)

Fig. 1

Level X: Abstract (Tag 009)

In the Abstracts Worksheet, the first box can only contain the letter "X" which is the code for the pseudo-bibliographic level for abstracts. Hence this letter is already printed in the box. Then follows a slash (also printed on the worksheet) and a second box. In this box, the 2-character language code is entered for the language in which the abstract is written. The code should be taken from the Table of Language Names and Codes (Table 1).

Character Set

Only those languages which use Roman or Cyrillic scripts can be incorporated into the system; the character sets available will be found in the INIS Reference Series document IAEA-INIS-7, INIS: Specifications for Machine Readable Data Exchange. No diacritical marks can be processed and should be omitted.

Abstract (Tag 860)

Most pieces of literature contain an abstract provided by the author. Author-provided abstracts are preferable. If no abstract is available the subject specialist should write one. The final editing responsibility for all INIS abstracts resides with the subject specialist. Specifically, small modifications that improve readability are often required, because the INIS readership is wider than suggested by the conference or journal for which the original literature was directly intended. For example, acronyms and abbreviations should be written out in full to assist the reader. Furthermore, because INIS is a nuclear database, the nature of the nuclear relevance needs to be clear from either the title, the title augmentation or the abstract. The guidelines for preparing an abstract can be found in Part II of this manual.

The abstract may not be divided up into paragraphs, and the text should not be indented from the margin. The length of the abstract should not exceed 2000 characters, including blanks and encoding characters.

In abstracts submitted on worksheets, special signs, symbols and formulae should be entered as given. They will be encoded during keyboarding in accordance with available character conversion conventions. Complicated formulae should be avoided, replaced by a scientific term if possible, or left out.

Instructions for encoding special characters for machine-readable input will be found in IAEA-INIS-7.

The abstract ends with a full stop in those cases where information on references, illustrations or author of the abstract follows. The full stop is then followed by a space, followed by the number of references and other illustration information. The initials of the author of the abstract (or the word " author" for those abstracts written by the author of the full text of the literature) should be entered in round brackets. The initials of the author are separated by a full stop. There should be no embedded space between the opening and closing brackets. If the authorship of the abstract cannot be attributed to any individual this information is of course omitted. The abstract field should in all cases end without a full stop unless the last word is an abbreviation.

Examples:

Abstract with author's initials:

Tag	Data
860	The specific tasks in the planning of INIS are described as well as the basis to establish links between the national systems. (Z.I.T.)

Abstract without author's initials:

Tag	Data
860	The specific tasks in the planning of INIS are described as well as the basis to establish links between the national systems

Author abstract, followed by illustration information:

Tag	Data
860	The specific tasks in the planning of INIS are described as well as the basis to establish links between the national systems. (author). 8 refs., 3 figs.

It is permitted to submit more than one language version of the abstract with your input. Should you wish to do this then remember:

(1) At least one abstract should be in the English language.

(2) The English language version should always come first.

(3) The number of abstracts should be indicated at Tag 008 of the Bibliographic Worksheet.

(4) A separate Abstracts Worksheet must be completed for each language version.

(5) Each language version of the abstract represents a new Bibliographic Level X. Therefore Tag 009 on the Abstracts Worksheet must always be completed with the appropriate Language Code.

Once an abstract has been submitted and included in output products, corrections or revisions can only be done by "changing", i.e. re-announcing, the entire record. For relevant instructions, see IAEA-INIS-1, INIS: Guide to Bibliographic Description.

Table 1

TABLE OF LANGUAGE NAMES AND CODES
(taken from International Standard ISO 639:1988, **Code for the representation of names of languages**)

LANGUAGE (ENGLISH NAME)	*LANGUAGE REFERENCE CODE*
Afrikaans	AF
Arabic	AR
Bulgarian	BG
*Byelorussian	BE
*Chinese	ZH
Czech	CS
Danish	DA
Dutch	NL
English	EN
Finnish	FI (SU)
French	FR
German	DE
Greek	GR (EL)
Hebrew	HE (IW)
Hindi	HI
Hungarian	HU
Indonesian	IN
Italian	IT
Japanese	JA (NI)
Korean	KO (HN)
Lithuanian	LT
Malay	MS
Norwegian	NO
*Persian	FA
Polish	PL
Portuguese	PT
Romanian	RO
Russian	RU
Serbo-Croat	SH (SR + HR)
Slovak	SK
Slovenian	SN (SL)
Spanish	ES
Swedish	SV
Thai	TH
Turkish	TR
Ukrainian	UK
*Welsh	CY

(*) N. B. Data submitted to INIS at Tag 860 must not contain any character that is not part of the INIS character set which also includes the 64 Cyrillic letters (upper and lower case) used in the Russian and Bulgarian languages.

Part II: ABSTRACTING IN THEORY AND PRACTICE

A. WHAT IS AN ABSTRACT?

An abstract represents a link of the utmost importance between the producer and the potential user of a particular piece of literature. Abstracts are, in fact, used as miniature documents, in bibliographies on selected topics, in literature reviews, in agency and company reports, and in computer systems for storage and retrieval of information and documents.

Abstracts must perform two functions: they must (a) draw the reader's attention to the full document, and (b) present an abbreviated version of the original The former requirement, (a), means that an abstract must be direct and brief yet draw the reader's attention. The latter requirement, (b), means that an abstract never should be misleading; particularly, it should not promise more than the content of the article justifies.

Condensed information is available in various forms, not all of which are abstracts.

1. The *title or expanded title.* A number of current awareness services, covering various disciplines*, use title listings which undoubtedly meet a genuine need, particularly because of their rapidity of publication. A good title may be quite adequate for indicating whether a publication is of likely interest. An expanded title or subtitle can be added for clarity.

2. *Annotation.* An explanatory comment in the form of a sentence may be added to the title**. INIS provides for this feature in the optional data field of title augmentation, Tag 620. Sometimes the supplementary information takes the form of a series of descriptors (added to the document from outside), subject headings (descriptors taken from the document), notations (classification assigned to a document) or mixtures of those elements. If indexing follows a particular system (Thesaurus, classification) this should be specified. Such "abstracts" would be considered as approaching the indicative method of abstracting. (See II.6).

3. *Extracts.* Portions of a document considered to be representative of the whole may be selected and cited verbatim. Forms 1 to 3 do not represent abstracts.

4. *Synopsis.* This is the term frequently used to refer to the author's own abstract, published simultaneously with his paper. An abstract, on the other hand, refers to a condensation written by somebody else. The differentiation between the two forms of abstract was partly made because an author is not always aware of the information requirements for an abstract from the documentation point of view, i.e. to satisfy the needs of specific groups of readers.

5. Summary. A summary frequently appears at the end of an article. It summarizes the essential findings and the main points to be concluded from the work. It may list the salient points of the conclusions to be drawn. A summary may be short but is frequently quite lengthy and detailed.

*For example, "Current Contents" in engineering and technology, life sciences and physical and chemical sciences, "Geotitles Weekly" in geoscience.

** Bulletin Signaletique; Food Irradiation (which contains an annotated bibliography); Chemical Titles; Hydata (field of water resources).

Although factual and aimed at a clear orientation of the reader it generally assumes a knowledge of the preceding text and may therefore, taken out of its context, be less comprehensible than an abstract.

6. *The indicative abstract.* This is a short descriptive guide. It effectively picks out the highlights of an article and contains general statements about the document. Such an abstract does not include quantitative data. For certain types of papers such as a review, entire monographs, or papers dealing essentially with mathematical theory, indicative abstracts may be preferable to others. A report without conclusions, such as a compilation of data, or a progress report describing many aspects of a piece of work, may be represented by a simple indicative abstract. It may also be preferable for other disciplinary considerations which will be discussed later. (See Appendix, 1a).

7. *The informative abstract.* This is really the only form of abstract which can be considered effectively to replace the original article for comprehensive orientation purposes, and should supply sufficient specific information to leave little or no doubt about the content and potential usefulness of a publication. It represents a clear condensation of the essential arguments and findings of the original. It should indicate the topic, methodology, and particularly the results and conclusions obtained, with emphasis on quantitative aspects. (See Appendix, 1b, 2, and 3).

8. *The informative/indicative abstract.* This is effectively a combination of 6 and 7. Limitations on the length of the abstract or the type of document may be the determining factor. Informative abstracting would then be applied to the primary elements of the document, the rest being treated indicatively. (See Appendix, 4 and 5).

Slanted Abstracts

When only a portion of a document has been included in an abstract, e.g., because of the nuclear relevance of the specific subject or because of the nuclear techniques used in the work, the abstract is considered slanted. It is justified when the document itself is long and of general interest, yet only contains portions of specific interest. The abstract is intended to draw the reader's attention to such limited specific areas within the context of the document itself. One document may have been abstracted in various ways and cited differently in different secondary sources. Let us consider the example of a paper entitled "The Preservation of Food and Nutritional Value: Conventional Methods and Irradiation". One abstract may appear in a trade journal where the economics of irradiation techniques and conventional refrigeration or heat treatment are compared from the point of view of effectiveness, long-term investment, and consumer appeal. Another abstract, aimed at a biochemical audience, would stress the biochemical and nutritional changes involved in irradiated food, with some reference to comparable data based on conventional methods of preservation. Yet a further abstract may be primarily concerned with public health aspects of irradiation and adequate experimental data and legislation to ensure that no risks to the population are involved. In all of these cases the abstract will be slanted. Because of the restriction of the INIS scope to the nuclear field, slanted abstracts can actually be of considerable importance for INIS.

The selection of the type of abstract will depend on such factors as the length and style (whether factual or discursive) of the document and also on the limitations imposed on the length of the abstract. Effective abstracting at that level is very time-consuming and, hence, costly. The effective analysis of a document resulting in a good abstract is a highly skilled job.

B. HOW TO SET ABOUT "ABSTRACTING"

Abstracting consists of assessing and selecting significant information and presenting it in a condensed form, with precision and brevity. This manual aims at defining the standards to be used for INIS so as to improve the standard and consistency of abstracts entered into the INIS database.

1 . Assessment and selection of significant information

Consistency in the type of information offered from one record to another within the INIS database should be aimed at. Therefore, it is desirable to define abstracts in such a way as to optimize consistency in abstracting.

A survey made in 1963[*], due to the need for criteria by which to judge the adequacy of an abstract, involved the analysis of 130 sets of instructions prepared by various scientific publications for their abstracters. Attention was paid to function, content, and form. Abstracts appeared to have a great deal in common, which proved true even for different subject areas. The marked differences that were observed occurred between informative and indicative abstracts. *The informative abstract discusses the research, the indicative abstract the article describing the research.*

The essentials to be included are:

(1) The topic of the investigation (phenomenon, material, model or equipment)
(2) The purpose and scope of the investigation
(3) The methodology employed
(4) The results obtained
(5) The conclusions to be drawn

Specific to the INIS database is that it is essential that experts in a particular subject can understand from the title, title augmentation and abstract why the record is within the INIS scope, i.e., why it is relevant for the nuclear field.

Desirable to include are incidental findings (properties, side effects, physical constants, important inconsistencies, unexpected agreement with data from a related field or obtained by different methods, newly discovered documents or data sources, etc.). The degree in which this information should be given depends on the subject area and the context. If given at all, such information should be as specific as possible, so that it does not compete with the main body of results.

Topic or purpose is sometimes already indicated in the title. A clear statement of the basic problem is essential and should be formulated as precisely as possible. Reference to earlier literature should only be made if the study is concerned with its confirmation or refutation.

Methodology. A brief indication of methodology is frequently adequate, but precise details are desirable when a new technique is involved (see Appendix, 1b and 2). New techniques should be identified as such. Their range of validity and accuracy must be stated. In the case of apparatus, the degree of accuracy obtainable, any new basic principles involved, and possibly some special features of design should be clearly indicated.

[*] References are listed at the end of the Manual on page 21.

Results. Results should be cited quantitatively and/or qualitatively. Attention must be paid to precision when quoting numerical values. The range of validity of numerical results and their limits of accuracy should be indicated. When feasible, numerical results should be given in the abstract.

Conclusions. Results and conclusions frequently overlap. A clear mental distinction between what has been observed and what can be inferred must be reflected in the abstract. Conclusions are effectively concerned with the implications of the data obtained. These may take the form of recommendations, applications, evaluation, new or modified relationships, and hypotheses (accepted, proposed, or rejected).

Although the above order is usually maintained, some readers are more interested in a presentation centered around the findings of the research. There, essential results and conclusions are placed first. (See Appendix, 6B).

2. Precision

Precision is the prerequisite of a good abstract. Conjecture must be clearly separated from fact. The abstracter must not explain or justify a study, or add any information or criticism. His task is not that of reviewing the paper.

The level of precision can make all the difference to the value of an abstract. However, the same holds for accuracy, whilst precision and accuracy are complementary. In other words: precision over and above what is warranted by the work would infringe on accuracy and invalidate the abstract.

(i) Numerical Data. When dealing with a subject in which certain measurements or properties have been established, these should be given *together with the probable margin of error*, and a reference to the technique(s) used. This will be a fairly simple matter when dealing with such properties as the melting point of a compound, the refractive index, the density or the ultimate tensile strength of a particular quality of steel. However, it can become a very much complex proposition to interpret and cite quantitative data when biological systems are described. Conditions of reproducibility and the statistical significance of an experimental series, a range of values rather than a single value, or the numbers of controls involved in an experiment may become of primary importance and must then be indicated.

(ii) Techniques. An exact indication of a specific technique is desirable but any criteria in that respect will need to be adapted to the particular discipline involved. For example, it would not be possible to indicate all the quantitative steps involved in the synthesis of a labelled compound. But it would be important to cite the essential ones: the original compounds, the yield, the degree of purity, the scale or cost, etc., where applicable, or any other factor of particular significance in the context of the paper. New techniques should be identified as such.

In the case of apparatus, the degree of accuracy obtainable, any new basic principles of how it functions, and possibly some special features of design should be indicated clearly.

(iii) Nomenclature. Non-standard or unfamiliar nomenclature, proprietary names, abbreviations, acronyms, or symbols should be avoided. If their use is important or is preferred for convenience or brevity, they should be related to the standard form where they first occur in the abstract. This is also true for author-created terms. If sufficiently important to be already cited in the abstract, in addition to the body of the text, they must also be explained in the abstract. If an acronym is internationally known (e.g. ISO), at least among experts in the specific field that is the topic of the record, then the acronym need not be explained within the abstract. Here, the content of the INIS database itself often indicates

whether a particular acronym is frequently used and whether any misunderstanding may arise because of the use of the same acronym in a different sub-field within the scope of INIS. If an explanation is needed the acronym is written in full between parentheses after its first occurrence within the abstract. If in doubt it is preferable to err on the safe side by adding an explanation, especially because in recent years there has been a proliferation of the use of abbreviations and acronyms.

Scientific names should be given in addition to common names to identify biological species, both in order to give precision to the study reported, and to avoid misunderstandings at the linguistic level; some common names may appear decidedly "uncommon" when considered by someone of a different mother tongue. Not to mention pitfalls of literal translation!

(iv) Abstracting in different subject areas. The selection of significant information will vary considerably with the subject area and discipline involved. A chemist, for example, would scarcely be able to write a paper without establishing some kinds of "reference framework" of matter. The paper will be "about" a substance or group of substances so that the framework here can always be expressed in terms of material structure - inorganic or organic. Thus, an abstract in mentioning the old and new compounds with which the article deals already establishes reference points which, assuming satisfactory terminology, are non-controversial. The characteristics of a new compound or application may be defined quantitatively and without ambiguity. Names of chemical elements may be abbreviated when used alone or in common inorganic compounds (e.g. I deficiency and CaCO3 deposits, but potassium 2-naphthyl sulfate excretion). Names of compounds, hormones, enzymes, etc. may be abbreviated once they have been introduced in full.

With regard to neutron physics, the topic of the macroscopic study (e.g. absorption, thermalization, multiplication, transport, scattering of neutrons) should be indicated.

Papers in theoretical physics often are more difficult to abstract than papers in experimental physics. It is important here to indicate the exact coverage of the developed theory, i.e. which conditions must be satisfied to apply it, and also the mathematical method used. The links between the proposed and the existing theories are of great interest, too. Discussions about existing theories often are included merely to refresh the reader’s memory; they need to be referred to in the abstract only if they are used for comparative evaluations that appear in the paper.

In reactor technology, the type of reactor, possibly reactor physics data and siting may need to be indicated, with details of core and fuel elements, power, moderator, reflector and protection, where applicable. The purpose of the study should be indicated, together with details of the experimental techniques used. Results, major inconsistencies, and major economic and environmental implications should be discussed.

In shielding studies, the shielding requirements and type of shielding used should be indicated, with details of the radiations involved and the materials used. Results of calculations of structural characteristics and any measured factors, such as characteristic absorption, attenuation and scattering by the particular media employed, should be included.

With regard to engineering, a conceptual analysis of the problem may be involved so as to arrive at an equivalent mathematical model. Theories and methods for the solution, whether novel or not, of the mathematical problem must then be outlined. If any experimental work has been carried out it is necessary to include

(a) a brief description of the setup, of novel equipment, etc.; and
(b) a comparison between the theoretical and experimental values.

Conclusions and practical implications must be indicated.

Experiments in the life sciences should be defined as clearly as possible in view of the large number of variables often involved. In radiation experiments, for example, the radiation dosage and environmental conditions should be specified accurately and in detail. The particular strain or species of an animal or plant may be of the utmost importance in evaluating an experiment, as may be the stage of development, the season, geographical and possibly other experimental conditions which should then be mentioned. For drugs, use the generic name (when given) in preference to the proprietary or chemical name; mention both if possible. Registered proprietary names are always written with an initial capital. Thus Levanil[(2)] is a proprietary name for ethylurea, the generic name for (2-ethylcrotonyl) urea. Latin names of genera, subgenera, species, subspecies, varieties and forms must always be underlined. The specific epithet of an organism must never be used without its accompanying generic name (which may subsequently be abbreviated), e.g., *Escherichia coli to E. coli.* Acceptable abbreviations (2) may be used. New or revised taxa of any rank, geographic locations, significant anatomical and physiological characteristics, life-cycle data, host of parasites, etc. should be given. Distribution data should mention range changes as well as faunistic and floristic changes. Important facts other than the formal, strictly taxonomic information should be included. New data in any biological field (ecology, evolution, embryology, cytology, etc.) should be summarized or mentioned.

The field of health and safety is ultimately concerned with the nature and magnitude of radiation effects on living organisms, especially man. One main issue is the radiation itself: origin from external sources (x-ray machines, accelerators, radionuclides) or internally deposited (radionuclides); its intensity and duration; the radiation dose delivered; how the dose compares with maximum permissible levels; how it is identified and measured. Another issue is the organism or organ exposed: the whole body, a particular organ or combination of organs. A third issue concerns the effect: its character, its time or probability of occurrence as dependent on radiation dose. A fourth issue involves means of limiting the dose or effect: shielding, acceleration of excretion, improvement of operating or handling procedures, treatment before or after irradiation. The emphasis of any particular paper is likely to be on a very limited range of the field.

3. Abstracting Various Kinds of Documents

Various kinds of documents often have certain characteristics and present specific problems to the abstracter. Some of these, apart from the standard journal article already considered, will be treated separately.

A clear qualitative differentiation should be made between the survey and review type of document, both of which should be given an indicative abstract.

(*i*) *SURVEYS.* The standard, motivation and length of surveys vary widely. They tend to be fairly short and rather general. It is the abstracter's responsibility to give some indication of the intellectual depth or range of such a document, and thus reach the type of audience likely to be interested. A general paper, irrelevant to a specialist, may be of genuine interest to someone seeking a brief introduction to an unfamiliar or fringe field. Such a paper might be characterized by indicating in the abstract that the article is a "brief" (or otherwise, as the case might be) “survey”, “on a popularizing level.” If it is a good introduction to some general principles this should be mentioned. Such indications would leave no doubt in the reader's mind that this is not a *review* of the subject, which would have been written by an expert and represent a critical, liberally documented examination and assessment of

work and data in a particular field, usually accompanied by an extensive bibliography. When a survey contains bibliographic references they are usually few and of a more general nature.

(ii) REVIEWS. A review is a critical analysis of the state of the art in a particular and usually well-defined subject area. It is generally written by a scientist who has himself contributed actively to the field under discussion.

The abstract of a review is best presented in an indicative form. The words "comprehensive" or "exhaustive", for example, may help to show the level of the review. The abstract should define the limits of the subject area under review and the depth of treatment. The table of contents which usually precedes a review can be of considerable help in defining it.

It is of prime importance that a review be up-to-date. The period covered must be indicated and can be gauged by checking the earliest and, above all, the most recent dates occurring in the bibliographic citations. An indication of the exhaustiveness of a review may be found in the number of bibliographic entries. It may be possible, depending on the special knowledge of the abstracter, to detect a particular slant in the presentation from, for example, the technical point of view. Sometimes an author will clearly indicate, in the introduction or at the end of his review, that he has deliberately only attempted to cover certain aspects, while omitting certain others. Such indications are usefully reflected in the abstract. (See also p. 11, on slanted abstracts).

If a review is of only limited interest from the point of view of the INIS subject scope, this may be indicated as in the following example:

> "Various techniques are described, among them the use of radiotracers. No details (or "only 5 relevant citations") are given."

Another example might read:

> "The review aims at reader orientation on all major aspects of water pollution. Attention is centered on pollution from industrial waste and sewage and only a relatively small section is devoted to radioactive contamination, and its consequences from the ecological and from a public health point of view (p.x-x' and y-y', respectively)."

(iii) BIBLIOGRAPHIES. Since bibliographies can be invaluable tools, for example when writing a review, the standard and scope of a bibliography should be clearly indicated in the abstract. Information should be given on the kind of annotations supplied, including the presence of abstracts; whether all authors are cited and their affiliations; how the bibliography is arranged (e.g. whether by subject categories, or alphabetically by first author, or in some other way); specifications of the scope of the bibliography; the sources (primary and secondary, conventional and/or non-conventional literature, etc.) of the literature included; and the period covered. All this involves an indicative abstract. (See Appendix, 7).

(iv) MONOGRAPHS. Monographs or books can be considered as a whole when they treat a single homogeneous subject, and are then best given an indicative abstract. In the case of a book, an indication of the scope should be given, and of the level of audience addressed. A condensation of the table of contents should be compiled, not as a listing of chapter headings but instead by describing the basic concepts considered, with an indication of the depth involved.

Another kind of monograph concerns series such as "Advances in..." which, in fact, contains specialized subject reviews. Such a book will already have been split into analytics at the bibliographic level, so that the abstract to be written will be one suitable for a review or a journal article. Some journals named “Advances in....” actually are published in book form. The separate articles in every

"book" issue are, however, completely independent and should be provided with abstracts suitable for the INIS database.

Proceedings. If the subject dealt with is sufficiently homogeneous, one general abstract (indicative) should be prepared. If a variety of different topics is covered in the proceedings, the entries will have been split bibliographically, in which case individual abstracts (informative) will be required, as for e.g. journal articles.

Manuals. A training manual is a monograph with a mission. The purpose of the manual will already have been indicated in the title but particular attention needs to be paid to the stated needs for such a manual and the stated limits of its applicability. The foreword and the introduction should be studied carefully. The introduction may well represent a rather lengthy statement of purpose and of the techniques employed. (See Appendix, 8).

(v) PATENTS. Where applicable, the abstract should include the following:

(1) if a machine or apparatus, its organization and operation; (2) if an article, its method of making; (3) if a chemical compound, its identity and use; (4) if a mixture, its ingredients; (5) if a process, the steps. Extensive mechanical and design details of apparatus should not be given. With regard particularly to chemical patents, for compounds or compositions, the general nature of the compound or composition should be given as well as its use. Exemplification of a species could be illustrative of members of the class. For chemical processes, the type of reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary.

The patent abstract[3, 4] is a concise statement of the technical disclosure of the patent and should include a clear description of what is *new* in the context of the invention. Background knowledge and an appreciation of the significance of the contribution are most important in the preparation of the abstract. The abstract should be as informative as possible. Some patent abstracts, dealing with apparatus, a chemical process, and a sealing technique, respectively[3] , are given in the Appendix (see 9).

(vi) THESES OR DISSERTATIONS. The author frequently supplies his thesis with an extensive summary covering several pages. An abstract of only 250 words must nevertheless be formulated even here. Every attempt should be made to supply an informative abstract (see Appendix, 10). When in doubt about how to set about condensing the findings it is better to give only a general indication of the main topic and theories considered and to pinpoint some specific aspects and implications of techniques or theories stressed by the author.

(vii) TECHNICAL REPORTS

Reports of Meetings and Panel Reports generally.

An abstracter should take the following points into account when formulating an abstract of a meeting:

(1) The stated reasons for convening the meeting and any recommendations arising from it. This will give a clear picture of its pose and scope. (2) The subdivisions and main subject categories used by the rapporteur. These will give an adequate indication of the main topic and where to look for details of the types of techniques employed. (3) Results will be summarized either at the end of individual chapters or in connection with the conclusions incorporated in possible recommendations (if a panel). Recommendations are not necessarily part of the abstract. They are, however, a good indication of the trends resulting from the main results reported. An abstract of a technical report is given in the Appendix (see 11).

A panel is convened essentially in order to permit experts to discuss the latest research, trends or recommendations in an informal way. This sometimes leads to a formalized collection of papers of varying standards which nevertheless tend to be treated as if they were individual articles ready for publication. From the point of view of abstracting it would be easier to consider each contribution separately. Actually, however, the rapporteur(s) will normally present the panel report as a weighted summary of all the significant data presented. Such a technical report in the case of the IAEA may be of the order of 100 pages.

Reports of a Serial Nature. The first progress report on a contract should indicate the purpose of the investigation that was undertaken. Succeeding reports, however, need not restate the purpose unless the scope of the problem changes, which can happen for various reasons. The items making up the abstract for a progress report are essentially the same as for a self-contained technical report, although it is not always possible to draw conclusions from the work to date. The progress report clearly reports progress during a specific time interval. Pertinent conclusions can only be made in a final report or in a technical report on a single phase of an investigation, in which case an informative abstract should be given. Otherwise, an indicative abstract is appropriate.

(viii) SHORT COMMUNICATIONS. Short papers, particularly condensed summaries, present special problems to the abstracter. A Letter-to-the-Editor, articles in Letters Journals, preliminary notes, preprints and provisional communications, and summaries, - or long abstracts (e.g. of theses) themselves , reported to INIS as a piece of literature, belong to this category.

INIS has adopted the following rules to determine whether a piece of literature may be treated as a short communication or not:

(a) if the length of the full text of the piece of literature is less than 2000 characters, the item can be treated as a short communication;
(b) if the length of the full text of the piece of literature is greater than 4000 characters, the item must be treated as a normal full length publication and therefore an English language abstract *must* be provided with the input;
(c) if the length of the full text of the piece of literature lies in between the above mentioned limits, then the decision on whether to treat the item as a short communication (hence with no abstract) or to provide an English language abstract is left to the discretion of the inputting centre. The decision should be based on the value and information content of the original piece of literature.

Brief publications, which often amount to staking a priority claim in a particular field, are condensed, state results, and often compress data on techniques to a minimum. At some point a claim or conclusion will be formulated, though possibly with considerable caution. The abstracter must be sure not to change the emphasis or implications by attempts at oversimplification.

Some journals (e.g. Science) already insist on a brief abstract with each Short Communication, usually of an indicative nature. While an indicative abstract is preferable, present INIS rules require an abstract for all items even if the abstract is simply a single phrase (see Appendix, 13).

As a general guideline for writing abstracts of Short Communications the abstracter should (1) add some precise data or hypothesis to the information contained in the title which will generally be highly relevant and informative; (2) keep details of technique(s) to a minimum while clearly indicating the general principles employed; and (3) define claims made or results obtained. When in doubt an indicative abstract is preferable to a summing up which does not adequately represent the paper.

In some cases, if the full text of the piece of literature is less than 2000 characters, it may be decided to cite it verbatim *indicating,* however, that the entire article has been used.

4. Presentation and Style

At the present time the abstract length for INIS is limited to 2000 characters. The abstract can, of course, be shorter. From the point of view of language it has been stated that one version of the abstract must be in English, but reporting centres are also encouraged to include a version in the original language. We comment on a few aspects in particular.

(*i*) *Brevity*. The need for brevity is already implied by the limitation on abstract length. Brevity must not be achieved at the expense of clarity. Cryptic or ambiguous statements must be avoided.

(ii) Style. Abstracts should be written in connected sentences, not in telegraphic style or as lists of headings. Simple concise sentences should be used. In the informative abstract, the abstracter identifies himself with, and writes from, the point of view of the author, in as much as style is concerned. The third person is generally employed, in the active voice. The passive voice may be preferred, particularly in indicative abstracts. The style should be carefully checked to avoid obscure or ambiguous phrasing.

An abstract should not refer to a paper it summarizes as "This paper".
Instead of

"The paper reviews the current Yugoslav legislation in the field..."

it is more correct to say

"Current Yugoslav legislation in the field... is reviewed."

As has already been mentioned, the various elements of an abstract are usually arranged in the order of topic or purpose, methodology, results and conclusions. A "use"-oriented reader may prefer a "data"-oriented arrangement for quick scanning, where the most important results and conclusions are placed first, only to be followed by details on methodology, etc. The first order is, however, the conventional one. (See Appendix, 6, A and B).

(iii) Generalities. Vague general statements should be avoided. For example:

"Due to various difficulties in measuring techniques... the experiment was not pursued beyond 7500 C. "

is better phrased as follows:

"Existing techniques permitted measurement up to 750'C."

Also:

"No corresponding fallout values for the period June to July were recorded by any of the neighbouring countries."

would be better expressed as

"Available fallout values for June to July were restricted to country X."

Generalities concerning future activities and projects should not be included in an abstract. Rather than saying:

> "It is hoped that experiments now being carried out will confirm this to be valid not only in the medium but also very high temperature ranges."

it is better worded differently, if important enough for inclusion:

> "Validity has so far been tested for the medium temperature range only."

(iv) Negative Statements. Negative statements should be introduced with care. It would be pointless to indicate "Although experiments on the radiation effects in a nitrogen atmosphere would serve as useful controls, these have not yet been carried out.", whereas a statement indicating negative results for an experiment actually carried out may be of value to the reader, for example: "Control experiments in a nitrogen atmosphere showed no change in the radiation effects observed."

Negative results may, in fact, be useful but should only be introduced if considered significant, which can usually be gauged from the text.

(v) Citations. Citations of other work should be avoided in the abstract unless the work represents a confirmation or contradiction of work published by someone else. In that case, the principle involved will frequently already have been included in the title, and the abstract should then contain a bibliographic reference to the work in question which would permit its retrieval.

With regard to internal citations, the abstract should not refer to specific figures, tables, sections or equations in the original article. Footnotes are not acceptable.

REFERENCES

1. Borko, H. and Chatman, S. "Criteria for Acceptable Abstracts: a Survey of Abstracters' Instructions." *American Documentation 14,* 2 (1963) 149-160

2. BioSciences Information Service. "Guide to the Preparation of Abstracts for Biological Abstracts - 1970. *" Biological Abstracts 51,* 1 (January 1970) xxi-xxiii

3. Wahl, R.A. Patent Abstracts. Official Gazette of the United States Patent Office 863, 3 (May 20, 1969) 653-654

4. Patent Information and Documentation Handbook. World Intellectual Property Organization. Geneva, 1984. p. 3.12.0-7

Part III: APPENDIX OF ABSTRACTS

Note: In order to conform with the Formal Rules for preparing abstracts as described in Part I of this manual that stipulate that "The abstract field should in all cases end without a full stop unless the last word is an abbreviation", all the examples of abstracts presented in this Appendix end without a full stop unless the last word is an abbreviation.

1a. INDICATIVE. *Methodology,* stating principles of method

INVESTIGATION OF THE PROPAGATION OF PLANT POLLEN BY AN INDICATOR ACTIVATION METHOD

Radioactive labelling cannot generally be applied for studying the propagation of plant pollen, since radioactive contamination of the materials under investigation cannot be tolerated. Instead, labelling can be performed by the use of an indicator element that has a high cross-section for neutron activation. This substance is introduced into the plant under consideration. The flying pollen is caught by polyethylene foils by means of electrostatic attraction. The foils with the pollen are irradiated in a nuclear reactor with suitable flux of thermal neutrons. The labelled pollen grains can be detected and counted by autoradiography or by direct measurement. The method has proved satisfactory for pine and sugar beet. Indicator elements used for detection by neutron activation were manganese and dysprosium

1b. INFORMATIVE. *Methodology,* giving quantitative data

Any informative abstract dealing with methodology should clearly indicate (1) the principles of the techniques; (2) any special features of the technique (if new, details should be given; if a modification is involved, this should be indicated, with clear reference to the normally accepted technique or standards); (3) the range of validity of the technique; (4) the precision which may be obtained; (5) details of the experimental conditions required; (6) details of any novel piece of possibly accessory apparatus; and (7) proposed or actual combinations with other techniques or apparatus.

INVESTIGATIONS OF THE PROPAGATION OF PLANT POLLEN BY AN INDICATOR ACTIVATION METHOD

TOPIC — The indicator activation method (IAM) utilizes activable tracers and has certain advantages over radioactive tracers. The method cannot be used if continuous measurement of the labelled material is required without taking samples. IAM can be performed if the tracer dose does not exist in the material, or only at a very low and constant rate. Mn exists in a very low concentration (100-1000 ppm in pine needles) throughout the tree, and also has the required high activation cross-section relative to the other elements comprising the specimen matrix.

METHOD — Labelling may be achieved via roots, using a lined circular ditch, giving slightly less enrichment than trunk inoculation. Holes were drilled 8 cm into the trunk, and a 1 M $MnSO_4$ solution (with additional K, at a pH of 5) introduced between the trunk and a polyethylene cuff. Sufficient time (3 weeks) ensures increased pollen labelling with a highly diluted solution. Sixty litres were absorbed, increasing the concentration 4-20 times.

Pollen propagation was studied using 100 simple catchers, pollen adhering to protected polyethylene foils by electrostatic attraction. Subsequent foil irradiation gave a ^{56}Mn activity of 10-5 micro Ci/pollen grain after 20 min irradiation at 5 *X* 1012 neutrons CM-2 sec^{-1}.

RESULTS After labelling, a single pollen grain with an average mass of 6 X 10^{-8} g contained about 10^{-10} g Mn. Labelling lasts for more than one year. Pollen distribution up to 50 m was tested under varying meteorological conditions. A curve of the decrease in percentages of labelled pollen, plotted on a double logarithmic scale approximately follows the reciprocal distance, relevant to forestry breeding. (MHB)

2. INFORMATIVE. *Methodology*

THE SCINTILLATION CAMERA IN THE EVALUATION OF LIVER MORPHOLOGY AND FUNCTION

The indications for the use of the scintillation camera in the study of the liver are evaluated on the basis of the results obtained in 70 normal and abnormal subjects with ^{198}Au-colloidal gold (30 cases), ^{99m}Tc-sulfur colloid (20 cases) and ... I-rose bengal (20 cases). ^{198}Au-colloidal gold at the dose of 150-200 micro Ci yields satisfactory pictures of the liver with an exposure time of about 5 min. Using ^{99m}Tc at the dose of 2~3 mCi only 20-40 sec are needed to obtain images which are usually better than those obtained with colloidal gold. Employing rose bengal at the dose of 200 micro Ci a sequence of pictures is obtained at various intervals during an hour with an exposure time of 5 min for each image. Usually this sequence shows: (a) progressive visualization of the liver; (b) appearance of gall-bladder profile; (c) excretion of radioactive material in the intestine. The phases of the sequence may appear variably delayed in different hepatic diseases and this may require the taking of further pictures at later intervals

3. INFORMATIVE. *Chemical Topic*

THE METABOLISM OF P^{32} -LABELLED CIODRIN IN A LACTATING GOAT

PURPOSE A study was made of the metabolism of **p32** -labelled Ciodrin, alphamethylbenzyl 3-hydroxycrotonate.

METHOD dimethyl phosphate, by a dermally treated milk goat.

RESULTS Eleven percent of the applied dose was eliminated in the urine. Only minute quantities of radioactive material appeared in the feces and milk. Dimethyl phosphoric acid accounted for 79.7 to 91.2% of the radioactive material in the urine. No radioactive material could be extracted from the blood, and the maximum true residue in the milk was only 0.20 ppb.

4. INDICATIVE / INFORMATIVE

CAVITY REACTOR CRITICAL EXPERIMENTS

[The cavity reactor concept consists of a core, generally of dilute fuel, surrounded by a moderating reflector. This concept has long been considered as a means of attaining very high temperatures in a gaseous core, since the fuel need not be in contact with structural material.] A number of critical experiments have been performed on configurations of different core size and shape, with different structural material thicknesses between the cavity and reflector, with different coolant densities

surrounding the core, and with various other alterations. [The principal purpose was to evaluate the effects of engineering design variables for a cavity propulsion reactor concept.] Experiments reveal that a power reactor with the required structure and a cavity size 182.9 cm (6 ft) in diameter by 121.9 cm (4 ft) long can be expected to have a critical core loading of between 20 and 30 kg of ^{235}U.
(auth)

Note: Anyone working in reactor technology would not require to be told what the cavity reactor concept is or reasons for running critical experiments. Such information (indicated by square brackets) in the author's abstract was therefore unnecessary.

5. INFORMATIVE

CAVITY REACTOR CRITICAL EXPERIMENTS

PURPOSE Various aspects of the neutronics of a cavity reactor assembly, 6 ft in diameter and 4 ft long, were examined to evaluate the effects of engineering design variables for a cavity propulsion reactor concept. The reflector tank and cavity were separated by

METHOD Be or BeO blocks. Seventeen configurations in size, shape and distribution of fuel, and type and amount of structural materials (AI, Mg, stainless steel), were tested. Experiments were run with and without hydrogen in the fuel cavity. Temperatures in both coolant and D^2O moderator were also varied.

RESULTS For the system fuelled with 93.2% ^{235}U, uranium in sheet form with cavity pressure < 1000 atm, fuel mass must be below 30 kg. This system is feasible if fuel plates are inserted in the reflector to enhance reactivity (as long as the fuel quantity produces <20% of total power). (MHB)

6. EXAMPLES OF DIFFERENT ABSTRACTS OF THE SAME DOCUMENT

(Taken from ANSI-Z39, p.7 July 1970)

A. INFORMATIVE ABSTRACT, with Conventional Order of Document-Content Elements

NEMATODE CONTROL IN SWEET POTATOES

Because damage to sweet potatoes by root-knot nematodes makes it difficult for some growers in Mississippi to produce marketable grades, the Truck Crops Branch Experiment Station in 1967 conducted off-station tests with nematocides (including fumigants) on three- or four-row replicated and randomized field plots known to be infested with the nematodes. Both known and experimental nematocides were employed. The commercial fumigants Vorlex, Dow W-85, and DD significantly increased yields and quality in the treatments of rows. Vorlex or Dow W-85 should be applied at 2.5 gal/acre and DD at 9-10 gal/acre, 8-10 inches deep in the centre of the row, 14-30 days prior to planting. Broadcast fumigation was also effective, but required higher fumigant levels. Among the experimental solid nematocides, Bayer 68138 and Dasanit showed promise. More information is deemed necessary than was obtainable from this one-season field test

B. INFORMATIVE ABSTRACT, with Findings-Oriented Arrangement of Document-Content Elements

NEMATODE CONTROL IN SWEET POTATOES

The yield and quality of sweet potatoes can be increased by soil fumigation or the addition of solid nematocides in some areas of Mississippi. The commercial fumigants Vorlex, Dow W-85, and DD significantly increased yield and quality in the treatments of rows. Vorlex or Dow W-85 should be applied at 2.5 gal/acre and DD at 9-10 gal/acre, 8~10 inches deep in the centre of the row, 14-30 days prior to planting. Broadcast fumigation was also effective, but required higher fumigant levels. Among the experimental solid nematocides, Bayer 68138 and Dasanit showed promise. This study of control of root-knot nematodes was conducted by the Truck Crops Branch Experiment Station in 1967 on three- and four-row replicated and randomized field plots known to be infested with the nematodes. More information is deemed necessary than was obtained from this one-season field test

C. INDICATIVE ABSTRACT

NEMATODE CONTROL IN SWEET POTATOES

Problems caused by root-knot nematodes in growing sweet potatoes in Mississippi are discussed. Experiments with commercial and experimental nematocides, conducted in 1967 by the Truck Crops Branch Experiment Station, are described. Methods of application, including imbedding in rows and broadcasting, are compared. Results are given for specific nematocides, including the commercial fumigants Vorlex, Dow W-85, and DD, and the experimental solid nematocides Bayer 68138 and Dasanit

7. INFORMATIVE *Bibliography* Data-oriented

RADIOISOTOPES AND IONIZING RADIATIONS IN ENTOMOLOGY

The fourth volume of the bibliography covers the 2-year period 1986-1987. The bibliography contains 1800 references and was compiled from the open literature, the secondary and most of the primary sources being listed. References are fully annotated, complete with abstracts. They are grouped together according to a broad classification scheme. Within each section they are listed in alphabetical order by first author. There is a detailed subject index which, in addition, identifies the radioisotopes or radiations used in the particular study cited; a taxonomic index for insects and related arthropods; and special tables to identify insecticides studied with radiotracers, both by their chemical and their proprietary names, with an indication of the system (insect, plant, etc.) used. Finally, there is an author index indicating each author's affiliation (with date). [The documentation will be of practical use to the specialist requiring a rapid survey of relevant publications in related disciplines, to someone in search of detailed documentation on a particular aspect of the field, and to the scientist in developing countries.]

[....] This statement is only acceptable if made by the compiler of the bibliography (as was the case) and not by the abstracter (which would represent the abstracter's opinion which must not be expressed).

***8. INDICATIVE** Manual*

SAFE OPERATION OF NUCLEAR POWER PLANTS

The book consists of two parts, the first representing a Code of Practice for the Safe Operation of Nuclear Power Plants, based on two experts' meetings in 1986 and 1987. The Code was prepared by the International Atomic Energy Agency in co-operation with the World Health Organization. The Code forms part of the Agency's safety standards, applied to the operations undertaken by Member States with the assistance of the Agency. Individual chapters are devoted to external supervision, safety reports, limits and conditions, commissioning, operating instructions and procedures, records and reports, management, maintenance, modifications, periodic testing and inspection, radiological protection, and emergency precautions. The second part represents a compilation of technical appendices, with the objective of giving additional information and illustrative examples which would be helpful in implementing the Code without forming part of it

9. PATENT ABSTRACTS

1. Apparatus

A spherical closure member is captively held within the cages and is moved by blood flow between open and closed positions in check valve fashion. A slight leak or backflow is provided in the closed position by making the orifice slightly larger than the closure member. Blood flow is maximized in the open position of the valve by providing an inwardly convex contour on the orifice-defining surfaces of the body. An annular rib is formed in a channel around the periphery of the valve body to anchor a suture ring used to secure the valve within a heart([3]).

2. Chemical Process

Amides are produced by reacting an ester of a carboxylic acid with an amine, using as catalyst an alkoxide of an alkali metal. The ester is first heated to at least 67 degrees centigrade under a pressure of no more than 500 mm of mercury to remove moisture and acid gases which would prevent the reaction, and then converted to an amide without heating to initiate the reaction (3)

3. Sealing Process

A method for sealing by application of heat is given, using overlapping closure panels of a paperboard folding box having an extremely thin coating of moisture-proofing thermoplastic material on opposite surfaces. Heated air is directed at the surfaces to be bonded, the temperature of the air at the point of impact on the surfaces being above the char point of the board. The duration of application of heat is made so brief, by a correspondingly high rate of advance of the boxes through the air stream, that the coating on the reverse side of the panels remains substantially non-tacky. The bond is formed immediately after heating within a period of time for any one surface point less than the total time of exposure to heated air of that point. Under such conditions the heat applied to soften the thermoplastic coating is dissipated after completion of the bond by absorption into the board acting as a heat sink without the need for cooling devices

10. INFORMATIVE *Thesis*

RADIOTRACER STUDY OF RAPID SAND FILTRATION

TOPIC The effect on sand filtration efficiency of the dimensional relationship of suspended particles and bed grains was studied experimentally by determining the density of particle deposition at fixed elevations within a filter matrix,

TECHNIQUES using vermiculite particles. Cesium-137 labeled particles in narrow size ranges were suspended in water and passed into a laboratory-scale filter. The radioactive particles were followed with radiation detection equipment. Three different sizes of sand and one size of ground anthracite were utilized as the filter matrix.

RESULTS The observed pattern of deposition was found to depend on both the absolute and relative sizes of the suspended particles and the stationary grains. The relationship of filter coefficient to particle diameter is not linear over the complete range of sizes studied, and the reasons

CONCLUSION for this are discussed. The functional interdependence of grain and suspended particle dimensions is such that the filter coefficient varies inversely in a linear fashion with the ratio of pore diameter to particle diameter for ratios of about 5 or less. The hypothesis of gravitational force alone as explanation of particulate removal has been disproved. (MHB)

11. INDICATIVE *Technical Report*

NUCLEAR WELL LOGGING IN HYDROLOGY

A broad spectrum of hydrogeological investigations and problems is covered. The report is divided into four main sections by different authors. The introduction deals with the purpose of well logging in hydrology, including hole construction and hole equipment. Attention is paid to the various limitations of nuclear well-logging methods, and to the fundamentals of nuclear processes and instrumentation. Subsequently, logging methods (natural gamma, gamma-gamma, neutron, and tracer logging) are discussed, together with the principles, equipment, application and limitations of the method. A third section deals with the application and interpretation of results in terms of the characteristics of consolidated and unconsolidated strata, and the characteristics and movement of fluids. The influence of well-construction and drilling on nuclear logs is discussed. Finally, the advantages and disadvantages of nuclear logging are reviewed and recommendations given concerning the exploration, evaluation, exploitation, and management phase, and on the status of logging equipment. General characteristics of a nuclear logging unit for hydrological purposes and personnel requirements are given in an appendix. A list of contributors to the report is included. (MHB)

12. LEADING ABSTRACT

Separate abstracts were prepared for 4 of the papers in this volume. The remaining 27 papers, dealing with fluid mechanics in general, were considered outside the subject scope of INIS

13. SHORT COMMUNICATIONS

Letter to the editor. 6 refs.