学术论文英文摘要写作要点

作者：writer 来源：科研动力

本文原地址：https://www.iikx.com/news/article/843.html

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英文摘要是科学家在现代科技交流中高速地输入和输出信息的重要手段。本文讨论了优秀英文摘要的基本要素，包括文摘的功能，文摘的种类，文摘的内容和文摘的风格。同时提供了简明的英文摘要写作指南。

文摘是长篇文献的缩影，它置于论文、技术报告、专论、和其他文献之前，概括总结和突出文献的要点.在科技文献急骤增加的信息时代，各种文献杂志和检索系统情报库应运而生，种类越来越多，覆盖面越来越广，信息量越来越大。文摘已成为科技人员输人和输出信息的重要手段，成为科学交流中传递科技情报的重要方式.为了促进国际交流，各国科技出版物都附有英文摘要.本文拟从英文摘要的功能、种类、内容和文体风格等方面对英文摘要的写法进行探讨。



英文摘要的功能

好的英文摘要应具备以下功能

1. 提供足够的信息，让读者迅速准确地了解文献的基本内容，帮助该专业读者决定是否查阅原文，帮助相关专业读者毋需阅读原文就能获得所需要的信息;

2. 帮助一次出版物的编辑人员缩短选稿进程，使他们一看文摘就能估计该文献的深度和创造性;

3. 减轻文献杂志等二次出版物的编辑工作，供他们直接采用或稍作加工就使用;

4. 帮助克服使用一次文献的语言障碍

英文摘要的种类

文摘可根据内容、目的、结构及作者等不同标准来分类。短的文摘只有一句话，甚至只有一个短语，放在标题之前或之后，点出文献的最精彩部分，类似于一个副标。例如：

This paper describes results of research in process on the feasibility of Pre-Earthquake for Post-Earthquake Rebuilding (PEPER)

长的文摘长达数百词，分成几段，类似一篇短的论文.有的文摘是由作者自己写的，置于一次出版物之前，称为作者文摘;有的则是由专门的文摘员或其他编辑人员写。目前，普遍根据内容特征把文摘分成**资料性文摘**(Informative Abstract)、**指示性文摘**(Indicative Abstract)和**资料-指示性文摘**(Informative-Indicative Abstract) 3 种。

资料性文摘
概括地叙述文献的研究对象、性质、目的、范围、方法、过程、条件、结果和结论。它不但包括文献的基本思想和主要论点，同时也包括基本事实和主要论据，还包括所取得成果的技术性能、参数特征、使用范围、价值意义等。下面是一篇摘自『能量研究文摘』的资料性摘要。

Thee paper analyzes the petroleum-industry price and allocation controls that dominated US energy policy during the 1970s. It is emphasized that since controls on refined products tied maxilnuln prices to costs of production, the market effects of this regulatory system were quite unusual. The paper shows that controls induced firms to price refined products below marginal costs. In addition, the regulations tended to increase the degree of dispe rsion in prices charged by firms in the industry. Finally, in the context of multiple-product analysis, it is shown that the presence of effective ceiling prices for any of the products reduced the prices of all products below marginal costs.

这样的文摘包括了文献的实质内容，它可以独立存在，只要注明此摘要出自何处，就可供文摘杂志和各类情报库使用。这样的文摘有相当高的实用价值，绝大多数文摘杂志上的摘要都属这类资料性文摘。

指示性文摘
仅列出一次文献所探讨的对象、目的、角度、方法和主要结论而无具体的实质性信息，读者不能

从文摘中直接获取所需要的事实。一次文献上所附的文摘中有相当一部分都是这种指示性文摘，起指导阅读的作用。目前大多数学报均使用指示性文摘(请参阅本文的英文摘要)，目的在于吸引读者阅读论文全文。例如：

New methods for the synthesis of submicmn Tib 2 powders have be en found and experimentally demonstrated. Three reaction schemes are proposed that can give submicron Tib 2 powders as end product.Some properties of these powders are discussed.

文摘中仅仅提到合成粉末有 3 种反应技巧和讨论了粉末的性能，要想知道是哪 3 种反应技巧和讨论了粉末的哪些性能，读者必须阅读全文。

资料-指示性文摘综合了以上两种文摘的特点。例如：

The author examines eight major residential appliances in the US that currently consunle 8.9 quads/year, representing more than 12% of total 1984 US energy use. Expenditures on energy for these appliances totaled over $56 billion in 1984. Results indicate that improving the efficiency of all these appliances to economically optimal levels would reduce these annual expenditures by almost 30%, a savings of $17 billion per year. In steady state, the annualized additional investment cost to achieve this efficiency improvement is $7 billion. So the net savings is about $10 billion per year. This paper describes and analyzes energy efficiency choices for residenfial appliances and space conditioning equipment. The first section briefly illustrates historical trends in the average efficiencies of new appliances sold in the United States during the last decade. The second section shows results of the life-cycle cost analysis of eight major residential appliances. Results provide striking evidence that the market is not achieving economically optimal efficiency levels.

英文摘要的内容

理想的文摘通常应包括以下主要内容：目的和范围、方法和过程、结果和结论。

1. 目的和范围

多数文摘一开始便简明扼要地说明该研究或实验的目的和范围，或者陈述写这篇文章的原因，有的文摘同时又指出或暗示该项研究的特点、结果和意义。目的和范围要写得具体，要能吸引读者，要给读者留下深刻的印象。在表示目的和范围时，常用下列句型：

This paper develops a theoretical framework to evaluate the benefits and costs of energy projects in oil-producing developing countries. This paper presents an approach to equipment reliability prediction based on the concept that failures of electronic equipment are ultimately due to chemical, mechanical and/or metallurgical processes. This paper (report, thesis， work, presentation, document, account, etc.) describes (reports, explains, outlines, summarizes, documents, evaluates, surveys, develops, investigates, discusses, focuses on, analyzes, etc.) the results (approach, role, framework, etc.) of ... This paper (article, report, etc.) addresses (is concerned with, argues, specifies, covers, etc.) the following questions... This paper has three main objectives... This research project is devoted to⋯ The objective (purpose, motivation, etc.) of this paper (report, program, etc.) is... Our goal has been to develop...

目的和范围也常用名词短语前置的句型表示，把重点内容放在最显著的位置加以强调。如

Procedures for testing atmospheric transport and dispersion models for distances of several hundred to 1000 km from sources of pollutants are reviewed. The first known measurement of the differential cross section for electron capture to the continuum (ECC) from atomic hydrogen is presented.

为了使句子平衡而不至于过分的头重脚轻，也常使用下列句式：

New results are presented of studies of the applicafion of inorganic exchangers in the following fields... Detailed information is presented about... An account is provided of... 方法和过程

在源于实验的论文摘要里，通常需要描述实验的方法和过程，特别要注重描述新方法。当然有时也需要描述基本原理、操作程序及精确度等。在非源于实验的论文摘要里，如各种评论文章的摘要，可描述资料的来源和资料的处理方法。写这一部分时应采用一些连接手段，诸如词汇手段、语法手段和逻辑承接语等，使之前后连贯，过渡自然，易于理解。这一部分不宜写得太繁琐、太长。有的文摘省掉了这一部分，有的文摘把「方法和过程」与「目的和范围」揉进一个句子。请看下面的例子：

The method of preparation is based on a chemical bath deposition process during which a cathode potential is applied to the substrate. The mechanical and cohesion properties of brass plated steel cords have been investigated in dryhydrogen sulphide between 25°C and 450°C. 结果和结论

结果和结论
是科学研究的结晶，是读者普遍关心的问题，是论文、报告等文献的重要部分，在文摘里也应该清楚地表示出来。结果和结论在文摘里不一定要分开陈述，但要注意把推测和事实分开。这里所说的「结果」，包括各种实验和理论方面的结果、收集到的数据以及观察到的新现象等。对于各种新的发现应尽可能准确详尽地写出来。如果有许多发现的话，应首先考虑新的和经过验证的事件、与以前的理论不相符的发现或与实际问题有关的发现。「结论」可以是这些「结果」的价值、用途与意义，也可以是各种假设或建议。文摘中的结果或结论常用下列句型表示。

It was found that both molecular weight an d its distribution affected tensile strength It has been observed (shown, proved , etc.) that... These experiments indicate (reveal, show, demonstrate, etc.) that... The approach (method, framework, etc.) promises to be very useful for... The (experimental) results show (indicate, suggest, etc.)that... It is shown (concluded, proposed, etc.)that... This could imply that... This strategy appeared to be effective in... These studies are of significance to ... These results have direct application to... 英文摘要的文体

一般的英文摘要为 200 词左右的一段文章，用标准的英语、规范的语法和完整的句子，简明扼要地陈述一次文献的目的、方法、结果和结论。文摘自身要完整，可以不依附于一次文献而独立存在。它应尽可能多地包含一次文献的信息，最好能保持一次文献的基调和风格，但不能出现一次文献里没有的东西。由于篇幅的限制，文摘不宜列举例证，不宜引用他人的作品，不宜使用插图和表格。为了提高可读性 (readability)，文摘中应尽量少用或不用非标准的缩写词及符号，方程式和分子式，不宜过多地运用太专业化的术语。好的文摘应是：信息准确，文字精炼，连贯流畅，逻辑性强，通俗易懂，引人人胜。请看下例：

The nature of quality education is to nurture qualified people with creative spirit an ability. The kernel of quality education is individualization accomplishing education.The premise of individualizational accomplishing education is to recognize that every student is unique, and we should conduct special

education to every student in accordance with his aptitude, and help every student to develop his own individual characteristics. The key of individualizafional accomplishing education is to make every student be initiative to put the foundation on students, and to treat students as the main part of education. Do not excessively responsive, directing, and demanding to students. Individualizational accomplishing education represents the humanity spirits of modern education.

1. 文摘的开头

文摘关系到读者是否阅读文献全文，文摘的开头多种多样。下面这两种方法是比较好的，用得比较普遍。

(1) 用陈述目的和范围的主题句开始。这种方法开门见山，直截了当，使读者一下就抓住文摘的中心。如：

This paper describes recent modeling and experimental studies of reverse combustion (RC) linking, aimed at understanding the propagation of dynamics of a RC front.

(2) 在回顾历史或总结现状的基础上提出问题。引出文献的主题。这种方法逻辑性强，丝丝入扣，使读者产生一种非一口气读完，找到解决问题的方法方肯罢休的强烈愿望。如：

Recent research on parallel systems has shown that the most difficult problem for system designers and users is inter-processor connection and communication. A methodology for the automated design and implementation of inter-processor communication for certain multiple-processor systems has been developed and is presented in this paper.

2. 文摘的结尾

文摘的结尾如同文摘的开头一样，给人以深刻的印象。文摘的结尾方法多种多样，但下面两种方法使用得比较经常。

(1) 用「结论」结尾。如果是源于实验的论文文摘，常在结尾指出这些实验结果表明什么;如果论文是关于一种新方法、新工艺或新装置，结尾时可指明其用途或价值。如：

The results indicate that the sludge ash could be used as a partial replacement for cement in concrete. Hot hardness testing promises to be very useful for geoscientific purposes and applicable to a wide range of experimental research.

(2) 指出文献中的其他内容。如：

The consequences of changing the timing or volume of the material requirements are also considered. This paper also includes a comparison with other flooding studies performed elsewhere.

3. 文摘的人称

绝大多数英文摘要都使用第三人称(但不使用 he 和 she)，间或出现 the author(s)，the writer(s) 和第一人称 we，即使原文献作者只有 1 人，也宜用「we」

而不宜用「I」。请看下面这篇文摘，作者是 Ahmed E. Kamal.

In this paper we study local area networks based on the star topology. We consider different access protocols used for communication over star networks. The study is concerned with network performance. We present models for the analysis of existing star network protocols. We also propose a new access protocol for star networks. The protocol has a performance that is very close to perfect scheduling. It is based on using the semaphore mechanism for bandwidth sharing. We also present an exact performance model for this protocol.

4. 文摘的语态

目前各国出版的英文摘要中，相当一部分用被动语态写成，以减少主观因素，增强客观性。如：

Energy balan ce concepts were used to determine the amount of energy lost due to damping in a run-arrest fracture event. Possible sources of damping were identified and experiments were conducted to determine their relative contribution to the overall damping.

但现在许多科技刊物编辑和语言学家都主张在科技英语写作中使用主动语态。美国国家标准(American National Standard) 要求科技作者「Useverbs in the active voice whenever posible; they contribute to clear, brief, forceful writing.」

5. 文摘中的缩写词

由于篇幅原因，在学术论文英文摘要中广泛使用缩写词，其使用频率远远超出其他类型的文献。为了不使读者费解，当缩合词第一次出现时，应在它的前面或后面注出全文。例如：

This paper describes a model of residential consumption of natural gas. The model is estimated with two different but parallel data sources: the Energy Infommtion Administration's (EIA) New Energy Price and Expenditure Data System (EPEDS) and data published by the American Gas Association(AGA). These data are supplemented by data for explanatory variables, which are described in the text.

英文摘要写作要素 准备简明、完整、独立的文摘 简要地陈述文献的目的、方法、结果和结论
在有限的篇幅里尽量多容纳文献的内容 文摘中定量定性信息应与文献中的相符
使用标准英语和准确术语，遵循传统语法和标点规则 不要在文摘里出现文献里没有的东西
不要在文摘中陈述背景知识和引用他人作品
不用非标准的缩写词、符号，也不用图表和其他非文字性材料
当不太熟悉的缩写词第一次出现时，应注出全文 删去不必要的单词、短语和句子

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