



# Ei Compendex 更新

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## Thesaurus Search 叙词检索



# 内容概况: 索引

Contents lists available at ScienceDirect

Fuel Processing Technology

journal homepage: [www.elsevier.com/locate/fuproc](http://www.elsevier.com/locate/fuproc)

**Nickel-based HVOF coatings promoting high temperature corrosion resistance of biomass-fired power plant boilers**

Maria Oksa \*, Pertti Auerkari, Jorma Salonen, Tommi Varis

VTT Technical Research Centre of Finland, P.O. Box 1000, 02044 VTT Espoo, Finland

**ARTICLE INFO**

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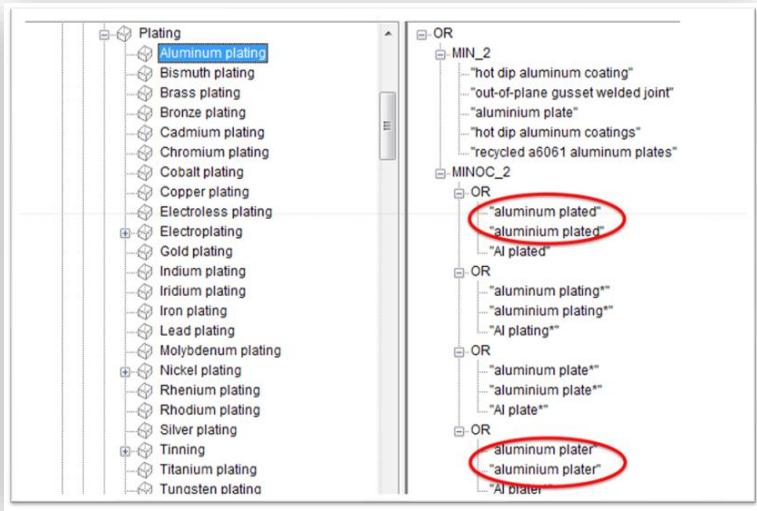
Keywords:  
Thermal spray coating  
HVOF  
High temperature corrosion  
Biomass combustion  
Corrosion protection  
Chlorine induced corrosion

**ABSTRACT**

There are over 1000 biomass boilers in Europe, and the number is increasing due to actions for reducing greenhouse gas emissions. Biomass boilers often experience strong corrosion due to harmful elements in fuels. In biomass burning, determining factors include elemental chlorine, power and temperature, which can cause chlorine-induced active oxidation, but corrosion has been limited over a fairly long time. In order to increase the corrosion resistance of these exchanger components, either more alloyed steels or protective coatings should be applied. High velocity oxy fuel (HVOF) sprayed coatings may provide corrosion protection for low alloy tube materials. Three nickel based thermal spray coatings (nickel, nickel-aluminum, and nickel-chromium) were tested for two years in a fluidized bed boiler (CFB), which had experienced several corrosion and tube failure. The coated tubes were installed to the cold and the hot economizer. After the exposure the coatings and the substrate materials were analyzed with SEM-EDX. The uncoated boiler tubes corroded strongly, whereas the thermal spray coatings exhibited excellent corrosion performance. This paper presents the tube failure at the cold economizer, exposure conditions, the analysis of the coated and uncoated samples, and the corrosion mechanisms of the steel tubes.

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NUMERICS

CONCEPTS

REGEX

Normalization component that will convert each value down to its base unit

Matching syntax for single numerical quantities

Matching syntax for numerical values given as part of a range

# 精确查找特定研究领域：Ei独有的工程索引叙词表

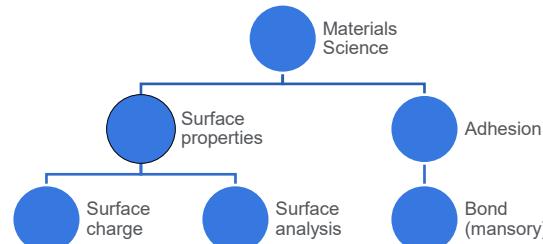
从1884年起，一直在发展中



叙词表是由专业的规范词组成，它可以将同一主题不同表述的词，按主题内容规范在标准的专业词下，避免了由于词汇书写不同造成漏检，或词义概念混淆导致错检的问题。

用户利用叙词表可从主题角度检索文献，进而提高文献的查准率。

利用叙词表还可以从主题概念的角度扩展或缩小检索范围。



# 通过索引实现相关性、可靠性以及可重复性

通过同义词库工具检索到的精心挑选和整理的内容可提供高度相关的结果。研究人员不会浪费时间阅读不相关的低质量文献。

## The pitfalls of generic search engines

- **结果不一致**: 搜索可以被操纵以返回最大结果或引入排名偏差
- **缺乏复制**: cookie 使搜索的可复制性降低
- **缺乏可信度**: Google Scholar 为任何作者提供上传其论文的能力



搜索 “Force”

## Compendex

### Top 5 controlled vocabulary terms

Atomic Force Microscopy	(111,118)
Finite Element Method	(70,942)
Mathematical Models	(53,834)
Friction	(47,604)
Scanning Electron Microscopy	(44,617)

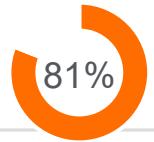


### Top 5 related searches

force microscopy
force atomic
force field analysis
force police
force labor



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NPS study Q1 2023 N=432



# EV 上的专业索引可提高查全查准率

161,245 records found in Compendex for 1884-2023: ("iii-v semiconductors") WN ALL

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## Web of Science

### Search

Results: 14,721

(from Web of Science Core Collection)

You searched for: TOPIC: ({III-V  
semiconductors})

Timespan: All years. Indexes: SCI-  
EXPANDED, SSCI, A&HCI, CPCI-S, ESCI.

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≡ Google Scholar "III-V semiconductors"

Articles

About 21.500 results (0,10 sec)



Scopus

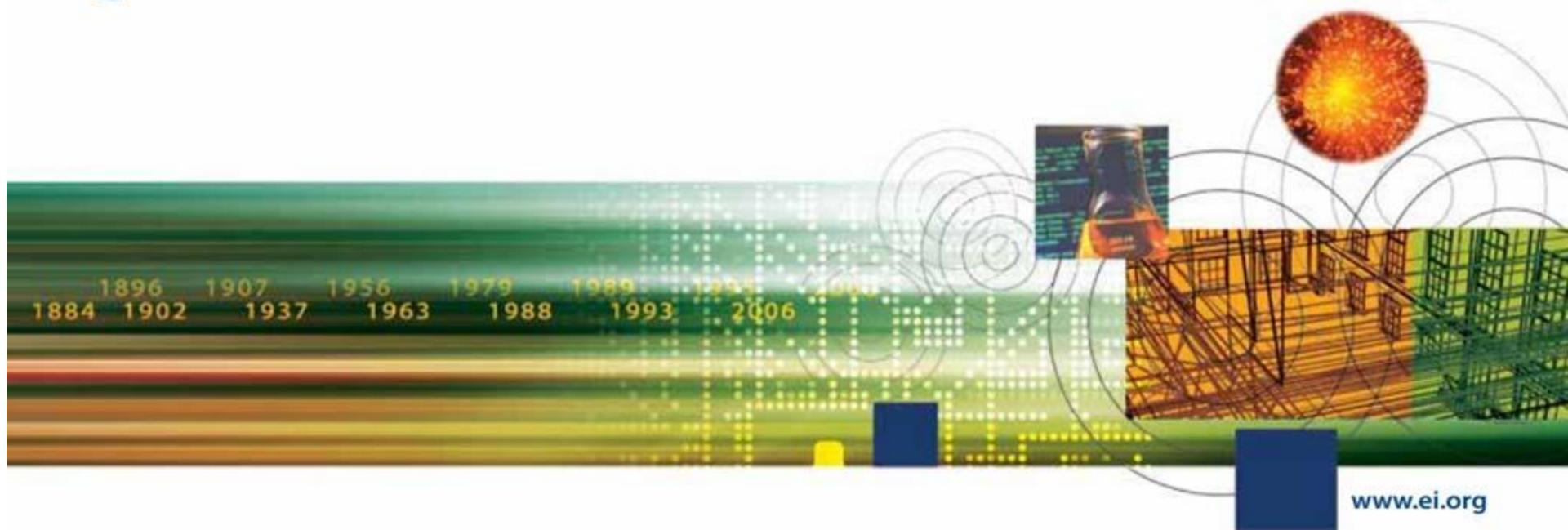
Search

49,301 document results

TITLE-ABS-KEY ({III-V semiconductors})

Ei智能索引包括所有不同类型的 3-5  
种半导体材料，确保万无一失

"InSb\_C"  
"Aluminium gallium arsenide\*\*"  
"Indium gallium arsenide\*\*"  
"Indium gallium phosphide\*\*"  
"Aluminium indium arsenide\*\*"  
"Aluminium indium antimonide\*\*"  
"Gallium arsenide nitride\*\*"  
"Gallium arsenide phosphide\*\*"  
"Gallium arsenide antimonide\*\*"  
"Aluminium gallium nitride\*\*"  
"Aluminium gallium phosphide\*\*"  
"Indium gallium nitride\*\*"  
"Indium arsenide antimonide\*\*"  
"Indium gallium antimonide\*\*"  
"Aluminium gallium indium phosphide\*\*"  
"Aluminium gallium arsenide phosphide\*\*"  
"Indium gallium arsenide phosphide\*\*"  
"Indium gallium arsenide antimonide\*\*"  
"Indium arsenide antimonide phosphide\*\*"  
"Aluminium indium arsenide phosphide\*\*"  
"Aluminium gallium arsenide nitride\*\*"  
"Indium gallium arsenide nitride\*\*"  
"Indium aluminium arsenide nitride\*\*"  
"Gallium arsenide antimonide nitride\*\*"  
"Gallium indium nitride arsenide antimonide\*\*"  
"Gallium indium arsenide antimonide phosphide\*\*"  
"Al<sub>x</sub>Ga<sub>1-x</sub>As\_C"  
"In<sub>x</sub>Ga<sub>1-x</sub>As\_C"  
"In<sub>x</sub>Ga<sub>1-x</sub>P\_C"  
"Al<sub>x</sub>In<sub>1-x</sub>As\_C"  
"Al<sub>x</sub>In<sub>1-x</sub>Ph\_C"



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## Compendex overview



# Ei内容一站式概览

records 0 Bulletins More ^

the

Compendex overview

Folders

Tags & groups

Interactive equations

560 documents added last

Compendex is the broadest and most complete engineering literature database available in the world

28,391,824

Total documents

190+

Subject areas

1884-2022

Years covered

131,445

Conference Proceedings

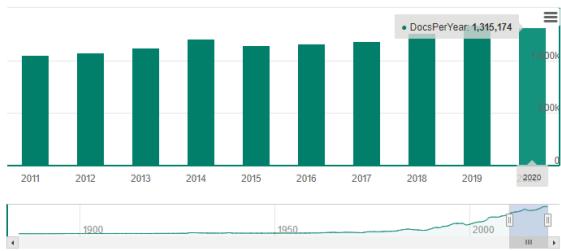
1,560,864

Documents added last year (2020)

## Publication Year

The number of documents for any particular year may vary due to content being added or removed from the Compendex database.

2020	1,315,174	2015	1,143,637
2019	1,337,527	2014	1,202,882
2018	1,263,614	2013	1,124,714
2017	1,184,071	2012	1,076,993
2016	1,156,463	2011	1,053,008





## Author/Affiliation Search



# 作者/单位检索

**问题：**由于作者的名字有表述差异，  
难以找全特定作者/单位所发表的文献

**我们的方案：**用户们现在可以在  
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Compendex中的作者和机构信息



Author search

Last name: Smith      First name:

Affiliation: California  Show exact matches only

\* Searches are limited to authors within Compendex records

193 author results in Compendex for Last name: "Smith", First name: "J", Affiliation: "California" 1 of 8 pages >

Display: 25  Sort on: Relevance

Refine results	Name	Documents	Subject area	Affiliation name	City	Country
<input type="button" value="Limit to"/> <input type="button" value="Exclude"/>	1. Smith, Jeffrey H.	<input type="button" value="View all"/>	Physics and Astronomy; Engineering; Computer Science; ...	Jet Propulsion Laboratory, California Institute of Technology	Pasadena	United States
Source Title	Smith, Jeffrey					
<input type="checkbox"/> Science	Smith, Jeff					
	Smith, J. H.					
	<a href="#">Request author detail corrections</a>					



Quick search: All fields

Databases ^ Date ^ Language ^

 All  Compendex  Insp   
 EnCompassLIT  EnC   
 WO Patents  Kno

Quick

Expert

Thesaurus

Author

Affiliation

Engineering School Profile

Affiliation name:

Chinese academy of science

 Show exact matches only

\* Searches are limited to affiliations within Compendex records

1 of 1 pages

## 7 affiliation results

in Compendex for Affiliation: "Chinese academy of science"

Display: 100  results per pageSort by: Count (DESC) 

## Refine

By category

Country

 China

Name

Documents

City

Country

1. **Institute of High Energy Physics Chinese Academy of Science**  
Chinese Academy Of Sciences

[View 6,957 records](#)

Beijing

China

2. **Institute of Policy and Management Chinese Academy of Science**  
Chinese Academy Of Sciences

[View 642 records](#)

Beijing

China

3. **Institute of Botany, Jiangsu Province and Chinese Academy of Science**  
Jiangsu Province And Chinese Academy Of Sciences

[View 96 records](#)

Nanjing

China

4. **Graduate University of Chinese Academy of Science**  
Graduate University of Chinese Academy Of Science

[View 1 records](#)

1896 1907 1956 1979 1988 1993 2006  
1884 1902 1937 1963 1988 1993 2006

Engineering research profile 工程报告检索



# 工程机构概述报告 (Engineering research Profile)

Engineering Research Profile NEW FEATURE

Summary of engineering research output for schools and research institutions.

Analysis includes:

- Top authors
- Funding sponsorship
- Research focus
- Publishing trend
- Subject area
- Source titles



Go to Engineering Research Profile Page



最多的基金  
源是哪里？



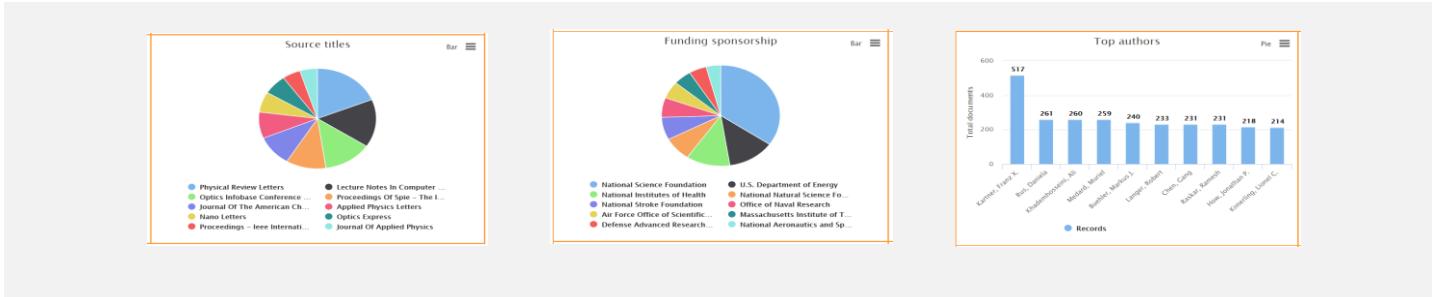
谁在发表？



教职员在哪  
里发表论文？



最热的研  
究  
主题是什么？



弄清自己机构的工科类研究并追踪论文发表情况: 仅需单个界面

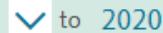
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# Engineering research profile ?

Jilin University 

39,365 records in Compendex

Filter by: 2010

 to 2020

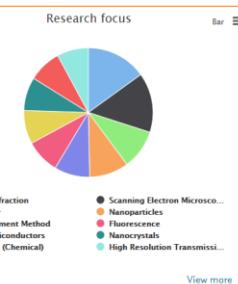
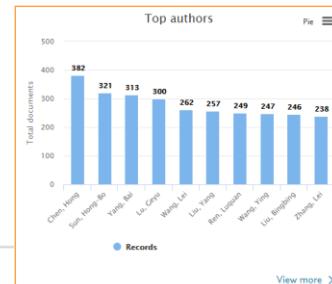
 AND

Select subject Area



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**Top authors**  
**Research focus**  
**Funding**  
**Publishing trend**  
**Subject area**  
**Source titles**





Refine by physical property 数值搜索



# 检索科研前沿（收录预出版及数值检索）：

Ei中收录1300种期刊的**Article-in-press**文献，最大程度的揭示前沿信息。

此外，Engineering Village是唯一支持Compendex和Inspec数值搜索（Refine by physical property）的平台。数值数据通常描述工程文献中最重要的方面。通过数字数据索引，研究人员可以访问可能未通过纯文本搜索发现的文档。为Compendex索引的62种不同的物理和化学性质。在Compendex和Inspec数据库中可用于交叉搜索的记录超过650万条。460,000种不同的数字数据写入方式 - 匹配，转换和标准化。帮助用户进行科学前沿跟踪：



# 实例：纳米技术

Refine your results to the latest cutting edge research for electronic circuits using an easy-to-use numeric search filter.

2,305 records found in Compendex for 1884-2020: (cmos) WN ALL × + (NU\_SIZE LTE 14 nm) ×

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Sort by: Relevance

Display: 25  results per page

1 of 93 pages >

**Refine**

By physical property

Filter results by physical properties such as size, temperature, pressure and many more.

Size

There are 2,305 total results for Size

<= 14

Nanometer (nm)

**Refine**

Comparative analysis of standard cells performance for 7nm FinFET and 28nm CMOS technologies with considering for parasitic elements

Ilin, Sergey (JSC Molecular Electronics Research Institute, Moscow, Russia); Ryzhova, Daria; Korshunov, Andrey Source: *Proceedings of the 2018 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering, ElConRus 2018*, v 2018-January, p 1360-1363, March 14, 2018, *Proceedings of the 2018 IEEE Conference of Russian Young Researchers in Electrical and Electronic Engineering, ElConRus 2018*

Database: Compendex

Document type: Conference article (CA)

Detailed Show preview [Full text](#) [Check local full-text](#)

Effect of fin shape of tapered FinFETs on the device performance in 5-nm node CMOS technology

Kurniawan, Erry Dwi (Department of Engineering and System Science, National Tsing Hua University, Hsinchu; 300, Taiwan); Yang, Hao; Lin, Chia-Chou; Wu, Yung-Chun Source: *Microelectronics Reliability*, v 83, p 254-259, April 2018

Database: Compendex

Document type: Journal article (JA)

Detailed Show preview [Cited by in Scopus \(3\)](#) [Full text](#) [Check local full-text](#)

3.  Testing system for radiation effects of CCD and CMOS image sensors

Li, Yu-Dong (Xinjiang Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Urumqi 830011, China); Wang, Bo; Guo, Qi; Ma, Li-Ya; Ren, Jian-Wei Source: *Guangxue Jingmi Gongcheng/Optics and Precision Engineering*, v 21, n 11, p 2778-2784, November 2013

Language: Chinese

Database: Compendex

Document type: Journal article (JA)

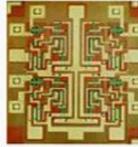
Detailed Show preview [Cited by in Scopus \(24\)](#) [Full text](#) [Check local full-text](#)

4.  Opportunities and challenges of FinFET as a device structure candidate for 14nm node CMOS technology

Yamashita, T. (IBM Research, Albany Nanotech., Albany, NY 12203, United States); Basker, V.S.; Standaert, T.; Yeh, C.-C.; Faltermeier, J.

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## Semiconductor manufacturing processes



- 10 µm – 1971  
6 µm – 1974  
3 µm – 1977  
1.5 µm – 1982  
1 µm – 1985  
800 nm – 1989  
600 nm – 1994  
350 nm – 1995  
250 nm – 1997  
180 nm – 1999  
130 nm – 2001  
90 nm – 2004  
65 nm – 2006  
45 nm – 2008  
32 nm – 2010  
22 nm – 2012  
  
14 nm – 2014  
10 nm – 2017  
7 nm – ~2018  
5 nm – ~2020

## 用户受益：

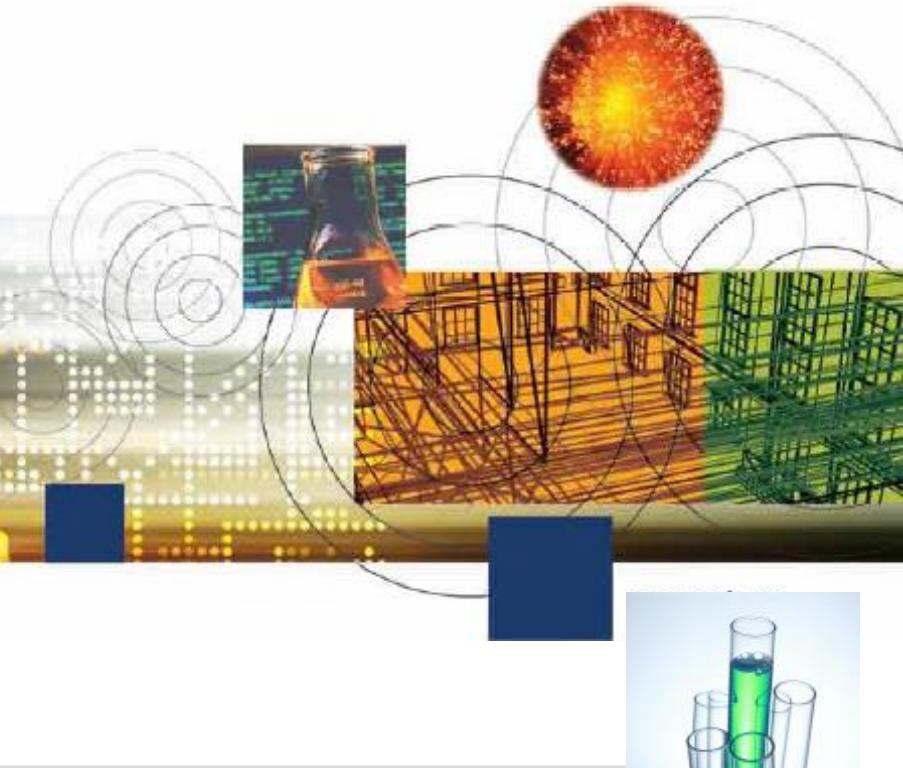
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二：提高查全率-数值检索比关键词检索的结果多出一倍

三：高效便捷地跟踪前沿

1896 1907 1956 1979 1983 1993 2006  
1884 1902 1937 1963 1988 1993 2006

## 化学索引

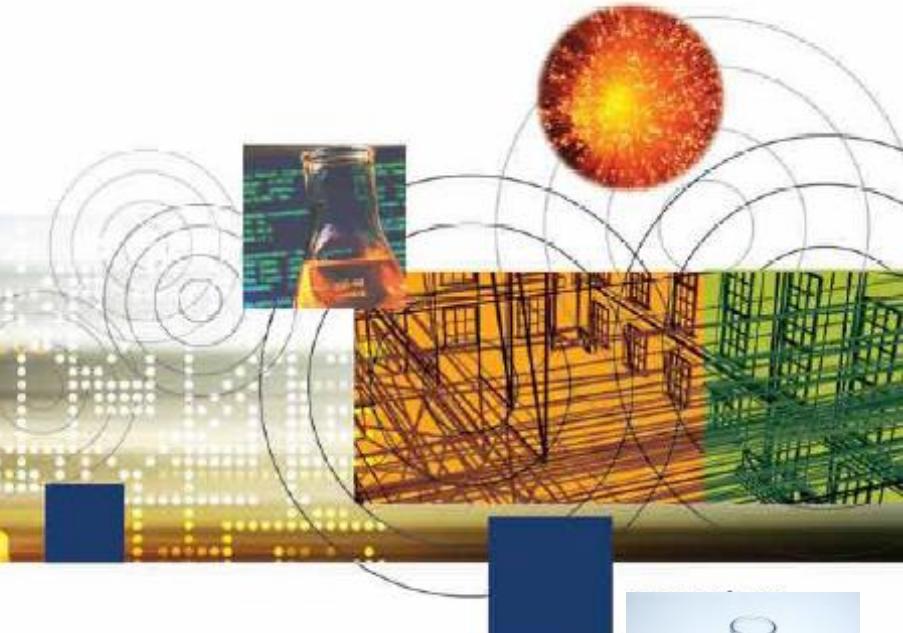


# 化学索引

在研究使事物变得更坚固，或者更轻便，或者更低价，或者根据更能性，或者具备可持续发展能力的过程中，对材料，其特性和进程进行修改是关键。为了提高搜索和再搜索此类主题内容的准确性，我们在**Compendex**中引入了一种新的智能系统，用于对化学式中表示的元素，化合物和材料进行索引。使用这个新系统，可以对化学式中的各个化学元素进行索引，并正确识别它是化学化合物还是材料（例如金属合金或半导体）。

此项提升极大地提高了检索精度，并可以提高每周含有元素，化合物和或材料索引的文章的召回率，从而使EV用户可以快速搜索并发现前沿材料科学/工程研究，这是以前受控词检索无法实现的。

1896 1907 1956 1979 1983 1993 2006  
1884 1902 1937 1963 1988 1993 2006



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