

# 精确检索，深度揭示

## --Inspec使用技巧分享

IET英国工程技术学会 刘闯  
2021年5月

# 信息获取，文献检索数据库的现状

## 全文数据库

- 直接，得到全文
- 分散，查阅不便
- 数量，急剧增长

## 文摘数据库

- 对全文数据库进行精选、提炼、浓缩和加工,标引出文献的主题，编制成具有多种检索途径的检索工具

# Inspec能做什么？

## 高效的检索机制

- 共有多达28个字段可供检索，除了各种直观检索字段外，还提供由相关领域专家择选的可以极大提高效率的检索字段：

控制词

非控制词

化学索引

天体物理标识索引

.....

分类代码

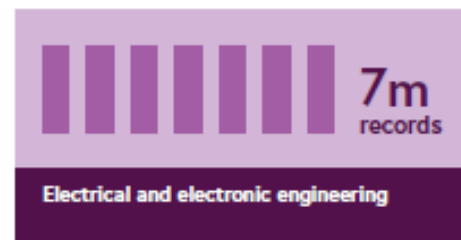
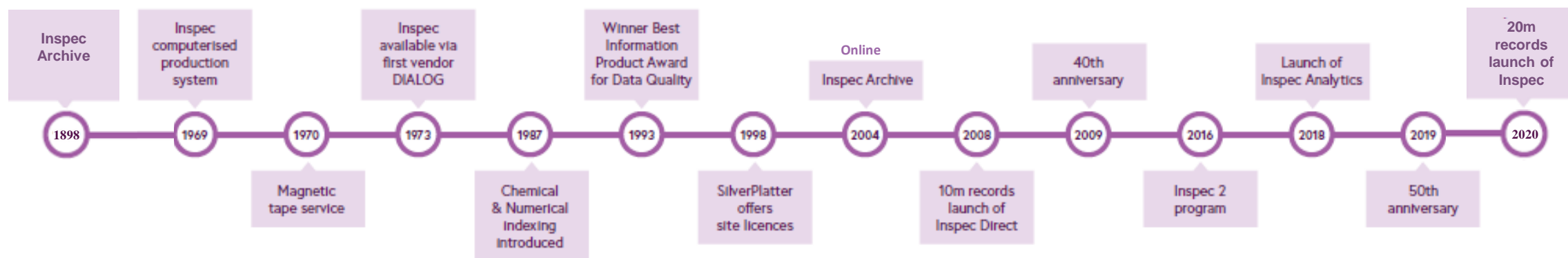
处理编码

数值索引

IPC专利代码索引

底层索引数据是通过专业团队的人工编加赋予每篇文章

# IET Inspec 120+ Years



1969 to date  
20+ m records  
May 2021

or 1898 with the Archive  
Optional Archive adds another  
873,699 records

In 2020  
900,000 records added

3,000 other publications from 700 publishers

45,000 journals

Over 15% open access

- 最早可追溯至1898年
- 每周数据更新
- 电子图书、会议录、学位论文、预印本

# Inspec的基础-叙词表

控制词



9,988

**Controlled terms**

Discover emerging topics related to your field, find collaboration opportunities and identify relevant publications.

[Search controlled terms](#)

学科分类



3,571

**Subject classifications**

Explore our subject classifications to identify global trends for high-level research areas or niche fields.

[Search subject classifications](#)

# 叙词表

1. Inspec的叙词表是很有价值的搜索工具，可以帮助您优化搜索结果
2. Inspec叙词包含超过9,980个控制词索引并且是基于术语的主题索引，同时包括10000多种非控制词和学科分类
3. 控制词及非控制词本身相互关联，以便您可以找到最精确的术语来添加到您的搜索中，或使用其他术语扩展搜索范围
4. 学科分类是一个包含分类代码的主题分类方案，仅在物理和工程两个学科领域，Inspec就将索引内容细分至3500多个学科

学科分类代码例子：

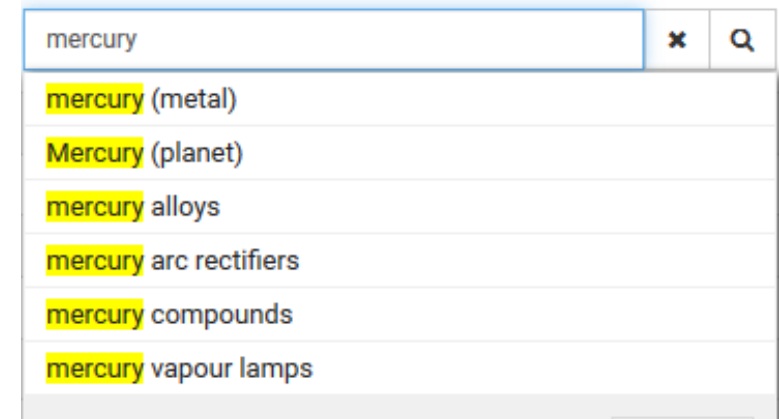
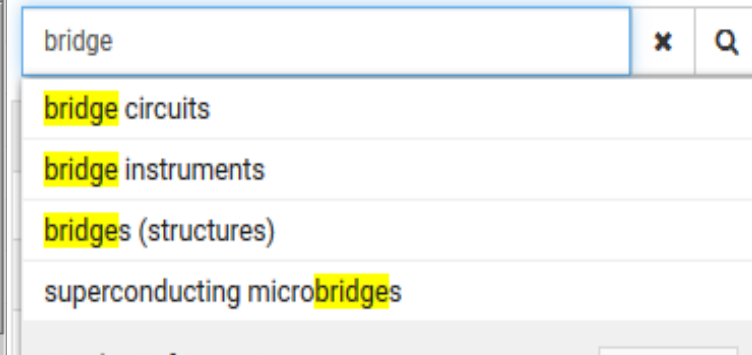
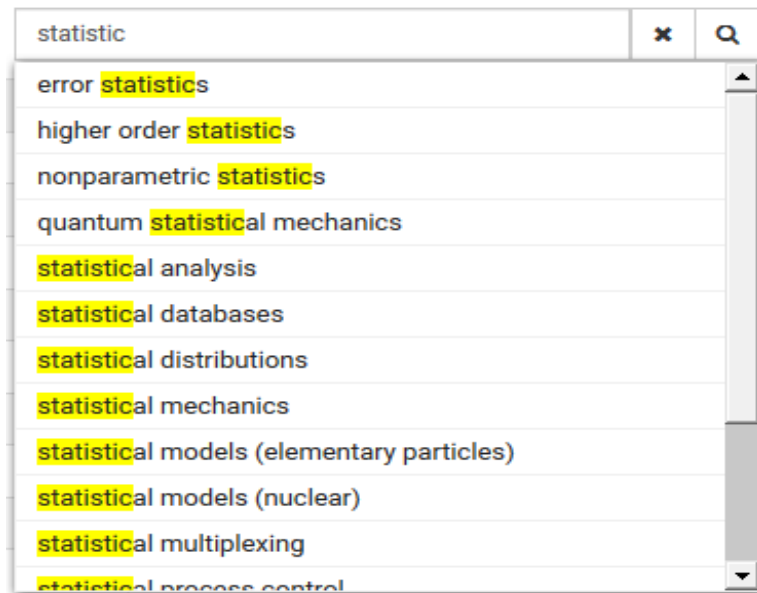
- C Computing and Control Engineering
  - C6000 Computer software
    - C6100 Software techniques and systems
      - C6110 Systems analysis and programming
        - C6110B Software engineering techniques

# 控制词表的创建

- Inspec叙词表中包含了近10,000个可被检索的控制词，以及数量大体一致的引导词(同义词、替换拼写、首字母缩写或控制词的子集)，这些引导词可帮助用户找到最适合其检索范围的术语
- 控词表由Inspec的学科专家生成，这些学科专家具备相关的inspec覆盖的专业知识，以此选择最相关的控词。
- 叙词是一种一致性很强的系统化机器语言，可以有效地区别于作者的日常用语
- 我们的人工标引团队运用叙词表对每一篇文献进行最为科学和细致的分级设置
- 叙词表每年对术语进行更新，涵盖最新研究领域，保持与原术语的一致性。同样，如果现有术语与所描述的研究领域不再相关，那么它们也会被停用

# 人工标引

- 独特的视角:
- 与其他自动机器标引不同，Inspec采取人工标引技术。正如下面图例所示，类似的术语在不同的研究领域甚至不同的上下文中其含义完全不同。Inspec的索引团队拥有工程技术领域背景，他们的专业知识确保了Inspec是最高质量的索引，为用户提供可以信任的准确见解。





# 控制词推荐

magnetic levitation Find

Results Page 1 ( Terms 1 - 13 of 13 )

◀ ◀ ◀ [1] ▶ ▶ ▶

KEY: Add = add to query H = view in hierarchy T = view thesaurus details

Add	H	T	electric propulsion
Add	H	T	electromagnets
Add	H	T	linear induction motors
Add	H	T	linear synchronous motors
Add	H	T	magnetic bearings
Add	H	T	magnetic field effects
Add	H	T	magnetic fields
Add	H	T	magnetic forces
Add	H	T	magnetic levitation
Add	H	T	permanent magnets

# 运用非控制词提高检索精确度

- 用来表明文章、论文或其他索引项目关键概念的额外术语
- 允许标引人员记录最重要的概念
- 没有授权的术语列表或固定格式
- 提供另一个有价值的检索项来帮助检索
- 用于那些新兴的，还未在正式叙词表中被创建定义的科学技术研究领域，保证差全查准
- 每条记录可拥有多个非控词术语，从而更为广泛的被检索和发现

# *HST/WFPC2 snapshot imaging of symbiotic stars*

作者:[Brocksopp, C.](#); [Bode, M.F.](#); [Eyres, S.P.S.](#)

DOI: 10.1046/j.1365-8711.2003.06915.x

## HST/WFPC2 snapshot imaging of symbiotic stars

作者: Brocksopp, C.; Bode, M.F.; Eyres, S.P.S.

查看 [Web of Science ResearcherID](#) 和 [ORCID](#) (由 Clarivate Analytics 提供)

Monthly Notices of the Royal Astronomical Society

卷: 344 期: 4 页: 1264-70

DOI: 10.1046/j.1365-8711.2003.06915.x

出版年: 1 Oct. 2003

文献类型: Journal Paper

## 出版社原始摘要信息

### 摘要

The results of a HST/WFPC2 snapshot imaging survey of selected symbiotic stars in 1999/2000 are presented. Seven sources - HD 149427 (PC 11), PU Vul, RT Ser, He2-104 (Southern Crab), V1329 Cyg (HBV 475), V417 Cen and AS 201 - were observed in filters F218W (ultraviolet continuum), F502N ([O III] $\lambda$ 4959, 5007) and F656N (H $\alpha$ ); an eighth source, RS Oph, was observed in F437N ([O III] $\lambda$ 4363), F502N and F656N. The presence of extended emission was detected in He2-104, V1329 Cyg and possibly HD 149427. In He2-104, we detected the [O III] and H $\alpha$  counterparts to the inner lobes found in [N II] by Corradi et al. For V1329 Cyg, comparison with previously published HST/FOC results indicates expanding ejecta which may be associated with an ejection event in 1982 (+or-2 yr) at a velocity of 260 +or- 50 km s<sup>-1</sup> in the plane of the sky and at an assumed distance of 3.4 kpc. We also present previously unpublished radio images of HD 149427, which we have obtained from the archives of the Australia Telescope Compact Array and which reveal the presence of extended emission at a similar orientation to that of the possible optical extension. Finally, we also include HST/WFPC2 GO observations of AG Peg and detect possible extended emission in the F218W filter.

### 作者信息

作者地址: Brocksopp, C.; Bode, M.F.; Astrophys. Res. Inst., Liverpool John Moores Univ., Birkenhead, UK.

### 出版商

Blackwell Science for R. Astron. Soc., UK

# Inspec标引信息

Inspec独特的人工底层标引数据，允许每篇文章可以通过多角度进行揭示，精准查询文献同时保证避免遗漏。

## 类别 / 分类

研究方向: Astronomy & Astrophysics; Instruments & Instrumentation (由 Clarivate Analytics 提供)

天文学对象索引: He2-104; V417 Cen; AS 201; AG Peg; HD 149427; PU Vul; RT Ser; V1329 Cyg; RS Oph

国际专利分类: H05H1/02 Arrangements for confining plasma by electric or magnetic fields; Arrangements for heating plasma

化学物质索引: N/el; O/el

分类代码: A9780G Cataclysmic binaries; A9710F Circumstellar shells and expanding envelopes; A9710H Mass transfer; A9580J Photographic region astronomical observations; A9580M Space ultraviolet astronomical observations; A9580D Radio, radar, and microwave astronomical observations

CODEN: MNRAA4

受控索引: binary stars; circumstellar matter; stellar photometry; stellar winds; stellarators; symbiotic stars

非受控索引: HST-WFPC2 snapshot imaging; symbiotic stars; ultraviolet continuum; Australia Telescope Compact Array; Hubble Space Telescope; Multielement Radio Linked Interferometer Network; nonthermal radio emission; F218W filter; outflows; winds; 3.4 kpc; N; O

## 文献信息

语言: English

入藏号: INSPEC:7934457

ISSN: 0035-8711

参考文献数: 20

## 其他信息

处理类型: Experimental

数值数据索引: galactic distance 3.4E+03 pc

SICI: 0035-8711(20031001)344:4L.1264:WSIS;1-S

- 天体物理识别号索引
- 控制词和非控制词及分类代码
- IPC国际专利号索引
- 化学索引
- 数值索引

# Chemical index

## 化学索引

- Inspec于1987年引入
- 为无机化合物和材料物质相关研究所建立的控制索引
- 高效检索化学元素和化合物相关的文献
  - 可以检索与某一化学元素或化合物相关的所有文献
  - 可以检索某一化学元素作为简单物质、掺杂物（添加物）的相关文献
  - 可以检索某一化合物或合金的组成成分、界面物质的所有文献

# 化学物质的标注方法

## 化合物成分采用如下标注方法

- Element(/el) 单一元素
- Binary(/bin) 双元素
- System(/ss) 三个以上元素

## 材料特殊用途标注方法

- Dopant (/dop) 掺杂物 (添加物)
- Interface (/int) 界面物质
- Surface/Substrate (/sur) 表面物质
- Adsorbate (/ads) 吸附物

# 标注方法

- Cobalt (element) 钴元素标注方式:

Co/el (元素/el)

Searched as: **CO-EL.CH.**

- Carbon monoxide (binary) 二氧化碳标注方式:

CO/bin C/bin O/bin (二元系-恰好包含两种元素的化学物质)

Searched as: **(C/BIN ADJ5 5 O/BIN).CH.**

- Sulphuric acid (system) 标注方式: (3种或更多成分的化学物质)

H2SO4/ss H2/ss SO4/ss H/ss S/ss O4/ss O/ss

Searched as: **H2SO4-SS.CH.**

# Numerical Indexing

## 数值索引

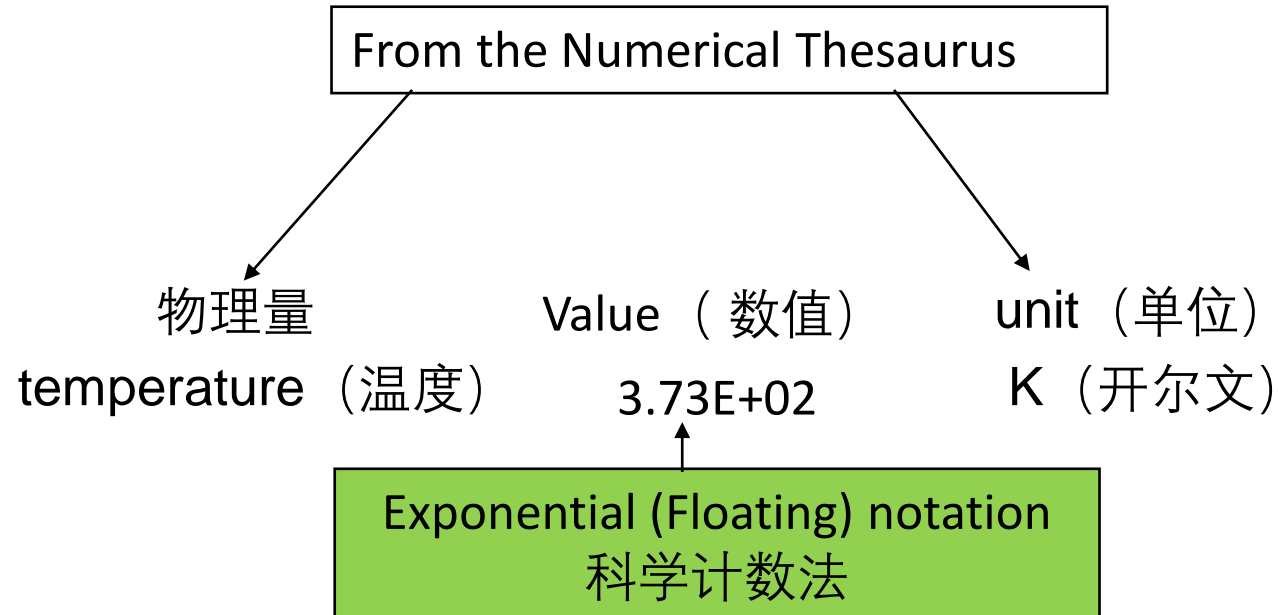
- Inspec于1987年引入
- 关于数值索引
  - 为文献中的涉及数值数据研究所建立的标准化索引
  - 检索某一物理性质的特定数值或范围（如Effciency 20%-30%）
  - 数值按科学记数法表示：
    - 1.8E+04 等于18000
    - 9.5E-01 等于0.95
  - 物理性质（最多47种）
    - 如：频率、温度、功率、长度等
  - 单位应用SI标准单位（国际单位制）
    - 如：赫兹、开尔文、瓦特、米等



# 数值索引格式

(a) *Exact value*

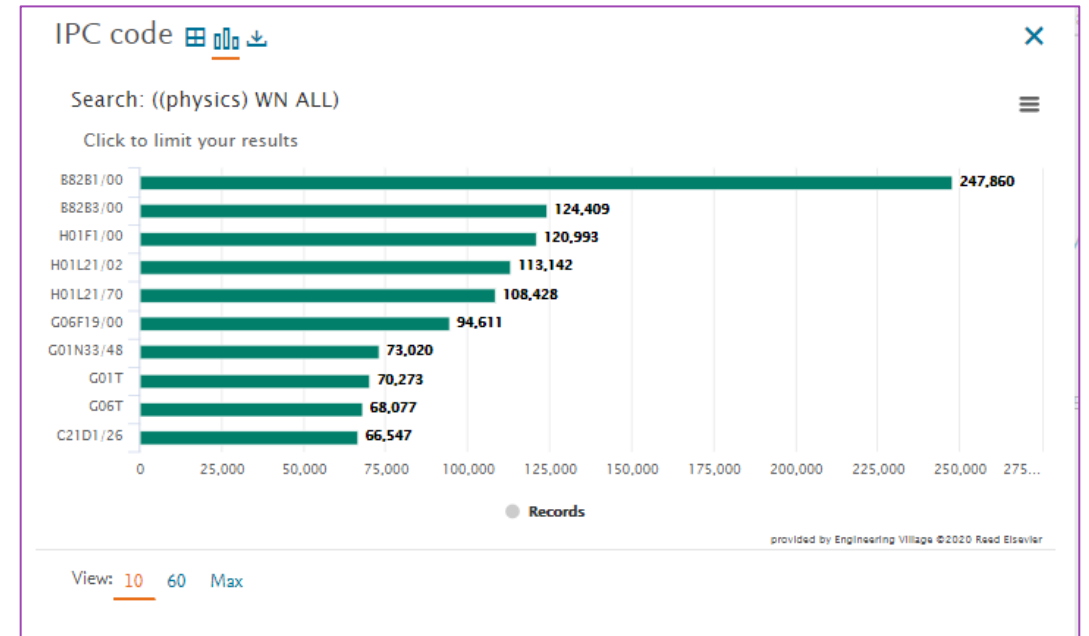
Search example: temperature of 100 °C 温度 100 °



# 天体物理识别号索引

- **International Astronomical Union** 提供命名指南
- 基于名称的首字母缩写及其后列出的编目流水号、位置信息等
- 如：Crab pulsar 蟹状星云脉冲星  
PSR B0531+21

# 国际专利号 (IPC) 检索



# Treatment Codes

## 处理代码

- Applications 应用
- Bibliography 参考文献
- Economic 经济
- Experimental 实验
- General or review 概述或评论
- New developments 新进展, 专利角度
- Practical 实用型
- Product Review 产品评论
- Theoretical or Mathematical 理论或数学

# Inspec被广泛认可的价值，除了大学之外的用户

- 专利审核： 美国国家专利局， 英国， 澳洲， 中国国家专利局， 荷兰国家专利局， 挪威， 西班牙， 瑞典。 丹麦， 瑞士， 瑞典， 葡萄牙， 芬兰..
- 制造公司： Simmens ， Sony， NTT， 霍尼韦尔， ABB， Emerson， Boeing
- 医疗设备生厂商： 罗氏
- 汽车制造业： 大众， 沃尔沃
- 光学和检测公司： 卡蔡， 佳能
- 能源公司： 埃克森美孚
- 光刻机： 阿斯麦
- 芯片公司： Intel
- 互联网公司： Facebook， IBM， MS
- 国家机构： 法国科技信息研究所， 俄罗斯教育部。
- 欧洲宇航防务集团下属Astrium， 日本宇航局， 美国航天局， CIA， 日本国防部， 日本航天局

# 使用场景

- 通过inspec独有的控制词和非控制词准确检索所需科研资料
- 超过3500个学科分类可以保证追踪最详细的相关信息
- 通过IPC国际专利分类号，检索最新专利相关的成果和论文，以及潜在竞争
- 独有数值检索，化学检索，天体物理标识可以保证一步到位发现最相关信息
- 通过分析Inspec独有的底层数据，利用自己的分析软件和第三方产品进行可视化分析

## KA波段（26.5-40G HZ）下氮化镓在微波集成电路功率放大器中的检索应用

### 案例背景：

- 氮化镓：氮化镓（GaN）是一种宽带隙三代半导体材料，该材料具有更高的功率密度，效率，耐高温性，并可以承载更大的电流。它通过实现高能效的发光二极管和电力电子设备而迅速改变着世界。
- Ka波段：随着科技的迅速发展，人们对通信的速度和信息容量也提出了更高的要求。并且由于频谱资源变得日益稀缺，使得人们将目光转移到了毫米波上。Ka波段（26.5GHz-40GHz）属于毫米波的低端，该频段具有以下优点：首先，Ka波段具有很高的频带宽度；其次，由于该波段的开发利用较少，并且在大气中的衰减更小，因此，具有很强的抗干扰性；最后，Ka波段的仪器具有更小的体积，因此也更易安装和维护。

75% of researchers recommend the new Web of Science!

CHECK IT OUT ↗

选择数据库

Inspec®

进入Inspec专有模块以使用Inspec中所有检索字段

基本检索

高级检索

semiconductors

×

主题

And ▾

GaN

×

主题

检索

检索提示

+添加行 | 重设

时间跨度

所有年份 (1898 - 2021) ▾

更多设置 ▲

索引

Inspec --1898年至今

最新更新日期: 2021-04-24

自动建议的出版物名称

打开 ▾

默认情况下显示的检索字段数

1个字段 (主题) ▾

(要永久保存这些设置, [登录](#) or [注册](#).)

主题词中检索三代半导体 (semiconductors) 概念以及通过氮化镓化学式进行检索

检索结果: 63,283

(来自 Inspec)

您的检索: 主题: (semiconductors) A  
ND 主题: (GaN) ...更多内容

创建跟踪

## 精炼检索结果

在如下结果集内检索...



过滤结果依据:

 开放获取 (4,958) 相关数据 (12)

精炼

出版年

- 2021 (426)
- 2020 (2,383)
- 2019 (3,237)
- 2018 (2,999)
- 2017 (3,125)

更多选项/分类...

精炼

分类

排序方式: 日期 被引频次 使用次数 相关性 更多 ▾

◀ 1 / 6,329 ▶

 选择页面

导出...

添加到标记结果列表

分析检索结果

1. Experimental determination of the valence band offsets of ZnGeN<sub>2</sub> and (ZnGe)<sub>0.94</sub>Ga<sub>0.12</sub>N<sub>2</sub> with GaN

作者: Karim, M.R.; Noesges, B.A.; Jayatunga, B.H.D.; 等.

Journal of Physics D: Applied Physics 卷: 54 期: 24 页: 245102 (11 pp.) 出版年: 17 June 2021

出版商处的全文

查看摘要 ▾

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数 ▾

2. Wet etching for isolation of N-polar GaN HEMT structure by electrodeless photo-assisted electrochemical reaction

作者: Aota, T.; Hayasaka, A.; Makabe, I.; 等.

Japanese Journal of Applied Physics 卷: 60 期: SC 页: SCCF06 (7 pp.) 出版年: 1 June 2021

出版商处的全文

查看摘要 ▾

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数 ▾

3. GaN-Based Tri-Mode Intelligent Solid-State Circuit Breakers for Low-Voltage DC Power Networks

作者: Yuanfeng Zhou; Risha Na; Yanjun Feng; 等.

IEEE Transactions on Power Electronics 卷: 36 期: 6 页: 6596-607 出版年: June 2021

出版商处的全文

查看摘要 ▾

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数 ▾

4. GaN-Based Megahertz Single-Phase Inverter With a Hybrid TCM Control Method for High Efficiency and High-Power Density

作者: Teng Liu; Cai Chen; Ke Xu; 等.

IEEE Transactions on Power Electronics 卷: 36 期: 6 页: 6797-813 出版年: June 2021

出版商处的全文

查看摘要 ▾

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数 ▾

根据以上一般检索字段条件, 返回检索结果6.3万篇

在限定检索条件时, 已经尝试通过对数值范围进行检索, 但如无 Inspec数值检索字段辅助, 该类型检索无法实现



# 化工索引字段

选择数据库 Inspec®

基本检索 高级检索

semiconductors × 主题

And GaN/bin × 所有化学特征描述

+添加行 | 重设

检索 检索提示

时间跨度

所有年份 (1898 - 2021)

更多设置 ▲

索引

Inspec --1898年至今

最新更新日期: 2021-04-24

自动建议的出版物名称

打开

默认情况下显示的检索字段数

1个字段 (主题)

(要永久保存这些设置, 登录 or 注册.)

在刚刚的检索条件中，我们并没有用到化工索引字段，而是简单应用主题检索中设定检索氮化镓（GaN）。这里我们对比一下使用Inspec化工检索字段会有怎样不同的效果。

检索结果: 56,067

(来自 Inspec)

您的检索: 主题: (semiconductors)

AND 化学物质索引: (GaN)

时间跨度: 所有年份. 索引: Inspec.

...更少内容

创建跟踪

### 精炼检索结果

在如下结果集内检索...



过滤结果依据:

开放获取 (4,381)

相关数据 (7)

精炼

出版年

2021 (385)

2020 (2,176)

2019 (2,942)

2018 (2,690)

2017 (2,761)

更多选项/分类...

排序方式: 日期 被引频次 使用次数 相关性 更多

1 / 5,607

选择页面

导出...

添加到标记结果列表

1. [Experimental determination of the valence band offsets of ZnGeN<sub>2</sub> and \(ZnGe\)<sub>0.94</sub>Ga<sub>0.12</sub>N<sub>2</sub> with GaN](#)

作者: Karim, M.R.; Noesges, B.A.; Jayatunga, B.H.D.; 等.

Journal of Physics D: Applied Physics 卷: 54 期: 24 页: 245102 (11 pp.) 出版年: 17 June 2021

出版商处的全文 查看摘要

2. [Wet etching for isolation of N-polar GaN HEMT structure by electrodeless photo-assisted electrochemical reaction](#)

作者: Aota, T.; Hayasaka, A.; Makabe, I.; 等.

Japanese Journal of Applied Physics 卷: 60 期: SC 页: SCCF06 (7 pp.) 出版年: 1 June 2021

出版商处的全文 查看摘要

3. [GaN-Based Tri-Mode Intelligent Solid-State Circuit Breakers for Low-Voltage DC Power Networks](#)

作者: Yuanfeng Zhou; Risha Na; Yanjun Feng; 等.

IEEE Transactions on Power Electronics 卷: 36 期: 6 页: 6596-607 出版年: June 2021

出版商处的全文 查看摘要

4. [GaN-Based Megahertz Single-Phase Inverter With a Hybrid TCM Control Method for High Efficiency and High-Power Density](#)

作者: Teng Liu; Cai Chen; Ke Xu; 等.

IEEE Transactions on Power Electronics 卷: 36 期: 6 页: 6797-813 出版年: June 2021

出版商处的全文 查看摘要

### 分析检索结果

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数

被引频次: 0

(来自 Web of Science 的核心合集)

使用次数

我们可以看出，检索结果从6.3万篇减少到了5.6万篇，有近7千篇实际与氮化镓并不相关的文章被屏蔽掉。

# 数值索引字段

-非常有价值的工程应用索引

选择数据库

Inspec®

基本检索

高级检索

semiconductors

主题

And

GaN/bin

所有化学特征描述

And

2.65E+10

至

4E+10

frequency (hertz)

检索

检索提示

+添加行 | 重设

时间跨度

所有年份 (1898 - 2021)

更多设置

索引

Inspec --1898年至今

最新更新日期: 2021-04-24

自动建议的出版物名称

打开

默认情况下显示的检索字段数

1个字段 (主题)

Inspec通过科学计数法描述具体数值，填入KA波段对应的数值。（26.5G-40G）

Inspec提供47种物理量可供检索，基本可以满足所有工程领域检索需求。

这里我们相应选择频率的物理量，物理单位选择赫兹（hertz）

检索结果: 497

(来自 Inspec)

您的检索: 主题: (semiconductors)  
AND 化学物质索引: (GaN) AND 频率:  
(2.65E+10 4E+10)

时间跨度: 所有年份. 索引: Inspec.

...更少内容

创建跟踪

### 精炼检索结果

在如下结果集内检索...



### 过滤结果依据:

开放获取 (24)

### 出版年

- 2021 (14)
- 2020 (42)
- 2019 (59)
- 2018 (48)
- 2017 (21)

更多选项/分类...

排序方式: 日期 被引频次 使用次数 相关性 更多

1 / 50

选择页面

导出...

添加到标记结果列表

分析检索结果

1. Trapping effects and microwave power performance in AlGaIn/GaN HEMTs

作者: Binari, S.C.; Ikossi, K.; Roussos, J.A.; 等. frequency 3.0E+10 Hz

IEEE Transactions on Electron Devices 卷: 48 期: 3 页: 465-71 出版年: March 2001

出版商处的全文

查看摘要

被引频次: 481

(来自 Web of Science 的核心合集)

使用次数

2. High-performance enhancement-mode AlGaIn/GaN HEMTs using fluoride-based plasma treatment

作者: Yong Cai; Yugang Zhou; Chen, K.J.; 等. frequency 3.43E+10 Hz

IEEE Electron Device Letters 卷: 26 期: 7 页: 435-7 出版年: July 2005

出版商处的全文

查看摘要

被引频次: 440

(来自 Web of Science 的核心合集)

使用次数

3. High-power AlGaIn/GaN HEMTs for Ka-band applications

作者: Palacios, T.; Chakraborty, A.; Rajan, S.; 等. frequency 4.0E+10 Hz

IEEE Electron Device Letters 卷: 26 期: 11 页: 781-3 出版年: Nov. 2005

被引频次: 306

(来自 Web of Science 的核心合集)

使用次数

Inspec controlled terms: gallium compounds - HEMT integrated circuits - III-V semiconductors - indium compounds - MMIC power amplifiers - silicon compounds - wide band gap semiconductors

Uncontrolled terms: Ka-band MMIC power amplifiers - saturated output power - HEMT technology - size 70.0 mum - size 15 mum - power 10 W - frequency 25 GHz to 31 GHz - InAlGaIn-GaN - SiC

Inspec classification codes: B1350H - Microwave integrated circuits - B2570H - Other field effect integrated circuits - B1220 - Amplifiers

Numerical data indexing: size 7.0E-05 m;size 1.5E-05 m;power 1.0E+01 W;frequency 2.5E+10 3.1E+10 Hz

Chemical indexing: InAlGaIn-GaN/int InAlGaIn/int GaN/int Al/int Ga/int In/int N/int InAlGaIn/ss Al/ss Ga/ss In/ss N/ss GaN/bin Ga/bin N/bin;SiC/sur Si/sur C/sur SiC/bin Si/bin C/bin

Treatment: Practical (PRA)

Discipline: Electrical/Electronic engineering (B)

DOI: 10.23919/EuMIC.2019.8909443

IPC Code: H01L27/085 - H03F - H03F3/20

Database: Inspec

通过简单的几个字段条件约束, 最终从6.3万篇文献中梳理出近500篇文章可供参考。数值检索功能支持范围检索, 所有符合范围限定的文献, 都会出现在检索结果中。同时, 我们还可以通过控制词 (1万个) / 学科分类代码 (3600个) 进行进一步的文献检索, 缩小范围。

低温超导→零度以下的“高温”超导→室温超导

硫化氢 (H<sub>2</sub>S) /含碳硫氢化合物在特定压强下实现室温 (15°+) 超导的应用

## 案例背景:

- 低温超导自首次发现以来已经有百年历史，但是，目前生活中对超导的实际运用并不广泛，一个瓶颈就在于超低温往往需要达到绝对0度左右，而且还要长久保持这种低温状态。
- 从 20 世纪 80 年代开始，高温超导材料相继问世，超导临界温度也不断提高。1986 年缪两名物理学家发现了钡、镧、铜、氧的陶瓷性金属氧化物，其临界温度约为-238.15 摄氏度，这两人也因此获得了1987年的诺贝尔物理学奖。这一发现也使得科学家制造出了临界温度约183.15 摄氏度的超导材料钇钡铜氧超导体，第一次突破了液氮温度(-196.15 摄氏度)。
- 2020年10月，《自然》杂志刊登的研究成果显示人类已经实现了室温(15摄氏度)环境下的超导。这一成果从投稿到接受不超过十天，足见其重要性。科学家多采用含氢化合物，硫化氢 (H<sub>2</sub>S) 就是用的较多的一种物质。在本次发表的最新成果中，科学家使压力达到了267GPa。

主题词检索超导 (superconducting) +室温条件 (room temperature)

The screenshot shows the Engineering Village search interface. At the top left is the Engineering Village logo. The search bar contains two terms: 'superconducting' and 'room temperature', both highlighted with a yellow box. Below the search bar, there are several filters: 'Databases' (All, Compendex, Inspec), 'Date', 'Language', 'Document type', 'Sort by', 'Browse indexes', 'Autostemming', 'Discipline', and 'Treatment'. The 'Inspec' database is selected and highlighted with a yellow box. A red text box with a yellow border points to the 'Inspec' selection, containing the text: '进入Inspec专有模块以使用Inspec中所有检索字段'. A 'Try Thesaurus Search' pop-up window is visible in the foreground, showing a list of terms related to 'Artificial intelligence'.

Engineering Village

Quick search: All fields for superconducting

AND All fields for room temperature

Turn on AutoSuggest | + Add search field | Reset form

Databases ^ Date v Language v Document type v Sort by v Browse indexes v Autostemming v Discipline v Treatment v

All  Compendex  Inspec

进入Inspec专有模块以使用Inspec中所有检索字段

Try Thesaurus Search

Use the power of standardized (controlled) indexing terms to build your search and view term relationships to find broader, narrower, or related concepts.

Artificial intelligence

For: AI; Computational intelligence; Machine Intelligence

Broader terms	Related terms	Narrower terms
<input type="checkbox"/> Cybernetics	<input type="checkbox"/> Adaptive systems	<input type="checkbox"/> Artificial life
	<input type="checkbox"/> Ambient intelligence	<input type="checkbox"/> Fuzzy control
	<input type="checkbox"/> Automatic identification	<input type="checkbox"/> Intelligent computing

Go to Thesaurus Search

根据以上一般检索字段条件，返回检索结果8911篇

在限定检索条件时，已经尝试通过对数值范围进行检索，但如无Inspec数值检索字段辅助，该类型检索无法实现

The screenshot displays the Engineering Village search interface. At the top left, the Engineering Village logo is visible. The search bar contains the query: "superconducting" AND "room temperature". Below the search bar, there are suggested terms: "High-Temperature Superconductors", "Barium Compounds", "Superconducting Transition Temperature", "Yttrium Compounds", and "X-Ray Diffraction". The search results section shows "8,911 records found in Inspec for 1896-2022: (((superconducting) WN ALL) AND ((room temperature) WN ALL))". The results are sorted by Relevance. The first result is "Fabrication and room temperature characterization of trilayer junctions for the development of superconducting qubits on 300 mm wafers" by Wan, D. et al. The second result is "Room temperature superconducting system for use on a hybrid aerospace-undersea craft" by Pais, S.C. The third result is "Enhanced Room-Temperature Ferromagnetism in Superconducting Pr<sub>2-x</sub>Ce<sub>x</sub>CuO<sub>4</sub> Nanoparticles" by Baqija, M.A. et al. The fourth result is "Novel approach to Room Temperature Superconductivity problem [arXiv]".

Engineering Village

Quick search: All fields for superconducting

AND All fields for room temperature

Suggested terms: High-Temperature Superconductors Barium Compounds Superconducting Transition Temperature Yttrium Compounds X-Ray Diffraction

Turn on AutoSuggest | Add search field | Reset form

Databases Date Language Document type Sort by Browse indexes Autostemming Discipline Treatment

8,911 records found in Inspec for 1896-2022: (((superconducting) WN ALL) AND ((room temperature) WN ALL)) 1 of 357 pages

Create alert Save search Share search RSS feed

Sort by: Relevance

Display: 25 results per page

Refine

By physical property

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

By category

Download all

Limit to Exclude

Add a term

Document type

- Journal article (6,135)
- Conference article (2,734)
- Book chapter (12)
- Report review (9)
- Dissertation (7)

Bar chart View more

Author

- Watanabe, K. (121)

- Fabrication and room temperature characterization of trilayer junctions for the development of superconducting qubits on 300 mm wafers  
Wan, D. (Imec, Kapeldreef 75, Belgium); Couet, S.; Xiaoyu Piao; Souriau, L.; Yann Canel; Tsvetanova, D.; Vangoidsenhoven, D.; Thiam, A.; Pacco, A.; Potočnik, A.; Mongillo, M.; Ivanov, T.; Jussot, J.; Verjauw, J.; Acharya, R.; Lazzarino, F.; Govoreanu, B.; Radu, I.P. Source: *Japanese Journal of Applied Physics*, v 60, n 5B, p SBB104 (6 pp.), 1 May 2021  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Full text
- Room temperature superconducting system for use on a hybrid aerospace-undersea craft  
Pais, S.C. (U.S. Navy, NAVAIR/NAWCAD, NAS Patuxent River, Patuxent River, MD 20670, United States) Source: *2019 AIAA Science and Technology Forum and Exposition (SciTech)*, p 9 pp., 2019  
Database: Inspec  
Document type: Conference article (CA)  
Detailed Show preview
- Enhanced Room-Temperature Ferromagnetism in Superconducting Pr<sub>2-x</sub>Ce<sub>x</sub>CuO<sub>4</sub> Nanoparticles  
Baqija, M.A. (Institut Teknologi Sepuluh Nopember, Department of Physics, ITS Campus, Keputih, Sukolilo, Indonesia); Putra, P.E.D.; Irfanita, R.; Suasmoro; Darminto; Kawamata, T.; Noji, T.; Sato, H.; Kato, M.; Koike, Y. Source: *Materials Science Forum*, v 966, p 263-8, 2019  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Cited by in Scopus (2) Full text
- Novel approach to Room Temperature Superconductivity problem [arXiv]

主题词依然检索超导（Superconducting），返回文章数量为26万多篇

The screenshot displays a search engine interface with a search bar containing the term 'superconducting'. The search results show 261,821 records found in Inspec for 1896-2022. The interface includes a 'Refine' sidebar on the left with filters for physical properties and categories. The main content area lists three search results, each with a title, author information, source, and a 'Full text' button. A blue arrow points from the text box above to the search bar area.

Quick search: All fields for superconducting

Suggested terms: High-Temperature Superconductors Barium Compounds Superconducting Transition Temperature Yttrium Compounds Superconducting Thin Films

Databases ^ Date v Language v Document type v Sort by v Browse indexes v Autostemming v Discipline v Treatment v

All  Compendex  Inspec

261,821 records found in Inspec for 1896-2022: ((superconducting) WN ALL)

Create alert Save search Share search RSS feed

Sort by: Relevance

Display: 25

**Refine**

By physical property

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

By category

Limit to Exclude

Add a term

Document type

<input type="checkbox"/> Journal article	(178,020)
<input type="checkbox"/> Conference article	(80,630)
<input type="checkbox"/> Conference proceeding	(1,524)
<input type="checkbox"/> Book chapter	(556)
<input type="checkbox"/> Report review	(430)

Bar chart View more

- Research Progress in Iron-Based Superconducting Wires and Tapes**  
Qihong Liu (Shenzhen University, College of Materials Science and Engineering, China) Source: *Journal of Physics: Conference Series*, v 1786, p 012007 (11 pp.), 2021  
Database: Inspec  
Document type: Conference article (CA)  
Detailed Show preview Full text
- Study on Mechanical Properties of Quasi-Isotropic Superconducting Strand Stacked by 2-mm-Wide REBCO and Copper Tapes**  
Wei Pi (North China Electric Power University, State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, China); Shuwen Ma; Qiangqiang Kang; Ziqiu Liu; Yiran Meng; Yinshun Wang Source: *IEEE Transactions on Applied Superconductivity*, v 30, n 4, p 6600105 (5 pp.), June 2020  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Cited by in Scopus (5) Full text
- Nematicity arising from a chiral superconducting ground state in magic-angle twisted bilayer graphene under in-plane magnetic fields [arXiv]**  
Tao Yu (Max Planck Institute for the Structure and Dynamics of Matter, Luruper Chaussee 149, Germany); Kennes, D.M.; Rubio, A.; Sentef, M.A. Source: *arXiv*, p 6 pp., 5 Jan. 2021  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Full text



点击By physical property右侧箭头显示下拉菜单  
物理量选择Temperature(温度), 单位选择Celsius(摄氏度),  
数值直接写入15-35

**Engineering Village** Search [Search history](#) [Alerts](#) [Selected records](#) [More](#) [?](#) [🏠](#)

Quick search:  [All fields](#) [for](#) [Suggested terms: High-Temperature Superconductors Barium Compounds Superconducting Transition Temperature Yttrium Compounds Superconducting Thin Films](#)

Databases [Date](#) [Language](#) [Document type](#) [Sort by](#) [Browse indexes](#) [Autostemming](#) [Discipline](#) [Treatment](#)

261,821 records found in Inspec for 1896-2022: ((superconducting) WN ALL) 1 of 10,473 pages

[Create alert](#) [Save search](#) [Share search](#) [RSS feed](#) Sort by: Relevance

**Refine** [Filter results by physical properties such as size, temperature, pressure and many more.](#)

By physical property [Temperature](#) [Celsius \(C\)](#) [Refine](#)

There are 46,419 total results for Temperature

between   [Refine](#)

By category [Limit to](#) [Exclude](#) [Download all](#)

Add a term

Document type [View more](#)

- Journal article (178,020)
- Conference article (80,630)
- Conference proceeding (1,524)
- Book chapter (556)
- Report review (430)

[Bar chart](#) [View more](#)

- Research Progress in Iron-Based Superconducting Wires and Tapes**  
QiuHong Liu (Shenzhen University, College of Materials Science and Engineering, China) Source: *Journal of Physics: Conference Series*, v 1786, p 012007 (11 pp.), 2021  
Database: Inspec  
Document type: Conference article (CA)  
[Detailed](#) [Show preview](#) [Full text](#)
- Study on Mechanical Properties of Quasi-Isotropic Superconducting Strand Stacked by 2-mm-Wide REBCO and Copper Tapes**  
Wei Pi (North China Electric Power University, State Key Laboratory of Alternate Electrical Power System with Renewable Energy Sources, China); Shuwen Ma; Qiangqiang Kang; Ziqiu Liu; Yiran Meng; Yinshun Wang Source: *IEEE Transactions on Applied Superconductivity*, v 30, n 4, p 6600105 (5 pp.), June 2020  
Database: Inspec  
Document type: Journal article (JA)  
[Detailed](#) [Show preview](#) [Cited by in Scopus \(5\)](#) [Full text](#)
- Nematicity arising from a chiral superconducting ground state in magic-angle twisted bilayer graphene under in-plane magnetic fields [arXiv]**  
Tao Yu (Max Planck Institute for the Structure and Dynamics of Matter, Luruper Chaussee 149, Germany); Kennes, D.M.; Rubio, A.; Sentef, M.A. Source: *arXiv*, p 6 pp., 5 Jan. 2021  
Database: Inspec  
Document type: Journal article (JA)  
[Detailed](#) [Show preview](#) [Full text](#)
- Investigation of AC loss of superconducting field coils in a double-stator superconducting flux modulation generator by using T-A formulation based finite element method**  
Yingzhen Liu (Harbin Institute of Technology, School of Electrical Engineering and Automation, China); Jing Ou; Yi Cheng; Schreiner, F.; Yuanzhi Zhang; Vargas-Llanos, C.; Grilli, F.; Ronghai Qu; Doppelbauer, M.; Noe, M. Source: *Superconductor Science and Technology*, v 34, n 5, p 055009 (12 pp.), May 2021  
Database: Inspec  
Document type: Journal article (JA)  
[Detailed](#) [Show preview](#) [Full text](#)

Display: 25 [results per page](#)

Expert search:

(((superconducting) WN ALL)) AND (((NU\_TEMPERATURE GTE 15 C) AND (NU\_TEMPERATURE LTE 35 C)))

复制检索式，使用化工索引需添加检索式内容

Databases Date Sort by Autostemming Search codes Browse indexes

All Compendex Inspec

检索结果直接从26万篇减少到1.1万篇

11,581 records found in Inspec for 1896-2022: ((superconducting) WN ALL) \* + ((NU\_TEMPERATURE GTE 15 C) AND (NU\_TEMPERATURE LTE 35 C))

Create alert Save search Share search RSS feed

Sort by: Relevance

Refine

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

By category  
Download all

Limit to Exclude

Add a term

Document type

- Journal article (8,072)
- Conference article (3,482)
- Book chapter (9)
- Report review (9)
- Book (4)

Bar chart View more

Author

- Watanabe, K. (106)
- Dou, S. X. (86)
- Tanaka, S. (82)
- Yamada, Y. (71)

Display: 25

- A Wireless Rectifier for Inductively Energizing High Direct-Current High-Temperature Superconducting Magnets**  
Jianzhao Geng (Victoria University of Wellington, Robinson Research Institute, New Zealand); Badcock, R.A.; Bumby, C.W. Source: *IEEE Transactions on Industrial Electronics*, v 68, n 4, p 3273-81, April 2021  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Cited by in Scopus (2) Full text

Temperature 20°

- Compact MR Magnet Design Methodology for Superconducting Animal MRI Scanner**  
Geli Hu (Institute of Automation, Brainnetome Center, China); Zhipeng Ni; Baogui Zhang; Tianzi Jiang Source: *IEEE Transactions on Applied Superconductivity*, v 31, n 2, p 4900106 (6 pp.), March 2021  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Full text

Temperature 20-25°

- Thermal transport in superconducting niobium nitride: a first-principles study**  
Zeyu Liu (University of Notre Dame, Department of Aerospace and Mechanical Engineering, Notre Dame, IN 46556, United States); Tengfei Luo Source: *Applied Physics Letters*, v 118, n 4, p 043102 (6 pp.), 25 Jan. 2021  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Full text

Temperature 20-25°

- Preparation and characterization of high-entropy alloy (TaNb)<sub>1-x</sub>(ZrHfTi)<sub>x</sub> superconducting films**  
Xiaofu Zhang (University of Zurich, Department of Physics, Switzerland); Winter, N.; Witteveen, C.; Moehl, T.; Xiao, Y.; Krogh, F.; Schilling, A.; von Rohr, F.O. Source: *Physical Review Research*, v 2, n 1, p 013375 (7 pp.), Jan.-March 2020  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Full text

Temperature 20-25°

(((superconducting) WN ALL)) AND (((NU\_TEMPERATURE GTE 15 C) AND (NU\_TEMPERATURE LTE 35 C))) AND ((H/bin WN CI)) AND ((S/bin WN CI))

Engineering Village

Search ^ Search history v 7 Alert

(((superconducting) WN ALL)) AND (((NU\_TEMPERATURE GTE 15 C) AND (NU\_TEMPERATURE LTE 35 C)))

Quick  
Expert  
Thesaurus  
Author

选择专家检索

Date v Sort by v Autostemming v Search codes v Browse indexes v

Engineering Village

Search v Search history v 7 Alerts 0 Selected records 0 More v

Expert search: (((superconducting) WN ALL)) AND (((NU\_TEMPERATURE GTE 15 C) AND ((H/bin WN CI)) AND ((S/bin WN CI)))

写入检索式

Reset form

Databases ^ Date v Sort by v Autostemming v Search codes v Browse indexes v

Expert search: (((superconducting) WN ALL)) AND ((NU\_TEMPERATURE GTE 15 C)) AND ((H/bin WN CI)) AND ((S/bin WN CI))



Reset form

Databases Date Sort by Autostemming Search codes Browse indexes

13 records

found in Inspec for 1896-2022: (((superconducting) WN ALL)) AND ((NU\_TEMPERATURE GTE 15 C)) AND ((H/bin WN CI)) AND ((S/bin WN CI))

检索结果继续从1.7万篇减少为13篇

Create alert Save search Share search RSS feed

Sort by: Relevance

Refine

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

By category Download all

Limit to Exclude

Add a term

Document type Journal article (12) Conference article (1)

Author Einaga, M. (2) Shimizu, K. (2) Alarco, J. A. (1) Balakirev, F. F. (1) Balicas, L. (1)

Author affiliation Florida State University (2) Osaka University (2)



Display: 25 results

- Superconducting phase diagram of H<sub>3</sub>S under high magnetic fields**  
Mozaffari, S. (Florida State University, National High Magnetic Field Laboratory, Tallahassee, FL 32310, United States); Dan Sun; Minkov, V.S.; Drozdov, A.P.; Knyazev, D.; Betts, J.B.; Einaga, M.; Shimizu, K.; Eremets, M.I.; Balicas, L.; Balakirev, F.F.  
Source: *Nature Communications*, v 10, n 1, p 2522 (6 pp.), Dec. 2019  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Cited by in Scopus (19) Full text
- On the isotope effect in compressed superconducting H<sub>3</sub>S and D<sub>3</sub>S**  
Harshman, D.R. (College of William and Mary, Department of Physics, Williamsburg, VA 23185, United States); Fiory, A.T. Source: *Superconductor Science and Technology*, v 30, n 4, p 045011 (5 pp.), April 2017  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Cited by in Scopus (7) Full text
- Superconductivity and structural studies of highly compressed hydrogen sulfide**  
Shimizu, K. (Osaka University, KYOKUGEN, Japan); Einaga, M.; Sakata, M.; Masuda, A.; Nakao, H.; Eremets, M.; Drozdov, A.; Troyan, I.; Hirao, N.; Kawaguchi, S.; Ohishi, Y. Source: *Physica C: Superconductivity and its Applications*, v 552, p 27-9, 15 Sept. 2018  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Cited by in Scopus (6) Full text
- Fermi-Bose Mixtures and BCS-BEC Crossover in High-Tc Superconductors**  
Kagan, M.Yu. (National Research University Higher School of Economics, ul. Myasnitskaya 20, Russia); Bianconi, A. Source: *Condensed Matter*, v 4, n 2, p 51 (19 pp.), June 2019  
Database: Inspec  
Document type: Journal article (JA)  
Detailed Show preview Cited by in Scopus (8) Full text

Temperature 20-25°, H<sub>3</sub>S

Temperature 20-25°, H<sub>3</sub>S

Temperature 20-25°, H<sub>2</sub>S

Temperature 20-25°, H<sub>3</sub>S

## GaN案例-Web of Science

**分类** ▲

- OTHER FIELD EFFECT DEVICES (305)
- SOLID STATE MICROWAVE CIRCUITS AND DEVICES (175)
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- WIDE BAND GAP SEMICONDUCTORS (422)
- ALUMINIUM COMPOUNDS (291)
- HIGH ELECTRON MOBILITY TRANSISTORS (245)

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## 超导案例-Engineering Village

**Controlled vocabulary** 📄 ⬇️ ▲

- Hydrogen Compounds (9)
- High-Temperature Superconductors (8)
- Superconducting Transition Temperature (7)
- High-Pressure Effects (6)
- Superconducting Materials (4)

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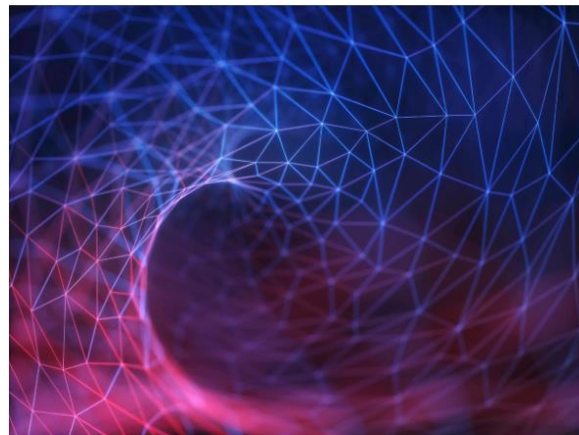
- Superconducting critical temperature, occurrence (8)
- Perovskite phase and other high-temperature superconductors (8)
- High-pressure and shock-wave effects in solids and liquids (6)
- Crystal structure of specific inorganic compounds (3)
- BCS theory of superconductivity (3)

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