

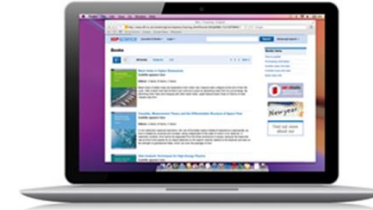
# IOP

**IOP** Publishing | science first

IOP平台功能和亮点介绍

## IOP的综合内容平台—IOPscience

- 加快研究速度：强化的搜索过滤系统帮助您更快地找到相关资料
- 与时俱进：在新内容发表后，收取RSS即时信息和电邮提醒
- 互动与分享：可做社交书签以分享文章
- 个性化：为信息提醒设置个性化方式，保存感兴趣的文章，并可阅读专业领域新发表的论文/文章
- <https://iopscience.org>



**IOPscience**

<https://iopscience.org>

## 主页和搜索

The screenshot shows the IOPscience website homepage. At the top, there is a navigation bar with the IOPscience logo, a search icon, and links for Journals, Books, Publishing Support, and Login. Below the navigation bar, there are several sections: 'Latest news from Physics World', 'Latest news and articles', 'Featured journals', and 'Latest books'. Each section contains a list of articles or book covers with brief descriptions and dates. On the right side, there are links for 'Customer Services' and 'Librarians'. Three callout boxes are overlaid on the image: one pointing to the search bar, one pointing to the 'Journals' and 'Books' links, and one pointing to the 'Customer Services' link.

**快速搜索**  
输入关键词进行检索、默认为在title, abstract中检索

浏览期刊、电子书和出版帮助指南

客服部门联络方式

图书馆员专用页面

## 论文查找页面

The screenshot shows the IOPscience search interface. At the top, there is a navigation bar with 'IOPscience', 'Journals', 'Books', 'Publishing Support', and 'Login'. A search bar contains 'Search IOPscience content' and a 'Search' button. Below the search bar, a dropdown menu is set to '2D Mater. (2014 - present)'. A callout box points to this dropdown with the text: '这里您可以选择通过浏览期卷期查找论文'.

On the left side, there is a 'Refine your search' section with 'Apply filters' and 'Clear filters' buttons. Below these are four filter categories: 'Date published', 'Journals', 'Authors', and 'Publication type'. A callout box points to these filters with the text: '如果您希望对出版时间、期刊、作者和出版类型加以限制, 可以勾选这里的复选框'.

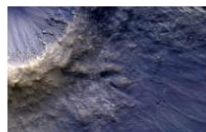
The main content area displays 'The top 500 results for "" are:'. Below this, there are options for 'Within: Anytime', 'Email alert', 'RSS search', and 'Sort by: Relevance'. A callout box points to the 'Sort by' dropdown with the text: '可以通过相关性和时效性对搜索结果进行排序'.

The search results list several journal articles, including 'Prospects of III-nitride optoelectronics grown on Si' and 'Elongated nanostructures for radial junction solar cells'. Each result includes the title, authors, and publication details, along with links to 'View abstract', 'View article', and 'PDF'.

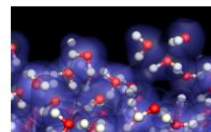
## 学科选集

### Subject collections

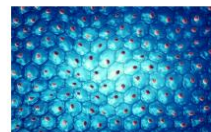
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Astronomy and astrophysics



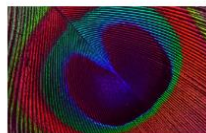
Atomic and molecular physics



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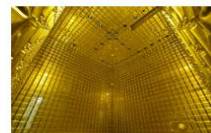
Condensed matter



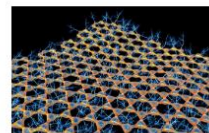
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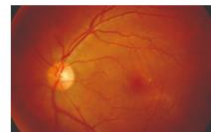
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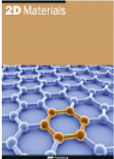
About IOPscience

学科选集的内容包含研究新闻、热点评论、学科综述、精选论文、作者资源、近期会议资讯、以及相关的期刊、电子书和包括视频摘要以及作者采访在内的多媒体内容等，帮助读者更加全面地了解学科的发展

## Journal Page

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MEDIAN TIME TO FIRST DECISION: 5 days 2018 IMPACT FACTOR: 7.343

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JOURNAL HISTORY

2014-present 2D Materials  
doi:10.1088/issn.2053-1583  
Online ISSN: 2053-1583

Most read Most cited Latest articles Review articles Accepted manuscripts Trending

#### Trending on Altmetric

- 85 Production and processing of graphene and related materials
- 41 Spin communication over 30 μ m long channels of chemical vapor deposition
- 38 Graphene prevents neurostimulation-induced platinum dissolution in fractal microelectrodes
- 38 Whiskey-phase exfoliation: exfoliation and printing of nanosheets using Irish whiskey
- 20 Excellent electronic transport in heterostructures of graphene and monoisotopic boron-nitride grown at atmospheric pressure

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## Article Page

The screenshot shows the IOPscience article page for the paper "Increasing the light extraction and longevity of TMDC monolayers using liquid formed micro-lenses". The page includes a navigation bar, article title, authors, publication date, and a list of metrics. Annotations in Chinese provide explanations for several key features:

- PDF 下载按钮** (PDF Download Button): Points to the "Article PDF" button.
- Article level metrics** (文章级指标): Explains that the article is currently being read by more and more readers and is being published in a journal with a high impact factor.
- Mathjax** (MathJax): Explains that after enabling the MathJax function, formulas will no longer be a static image and can be easily navigated.
- 获得许可** (Get Permission): Points to the "Get permission to re-use this article" link, explaining that clicking it allows for the use of the article.
- 补充材料** (Supplementary Material): Explains that these links allow for a deeper understanding of the article, including related videos, images, and other external documents.
- 相关推荐** (Related Content): Explains that the sidebar lists related articles.
- 相关工作** (Related Work): Explains that this section lists related job opportunities.

The page also features a search bar, navigation menus (Journals, Books, Publishing Support, Login), and a sidebar with "Related content" and "brightrecruits.com jobs".

## 电子书首页

The screenshot shows the IOPscience website's 'Browse books' section. The navigation bar includes 'IOPscience', 'Journals', 'Books', 'Publishing Support', and 'Login'. A search bar is present with the text 'Search IOPscience content'. Below the navigation, the 'Browse books' section features a grid of book covers with their titles, authors, and publication dates. A 'Sort by' dropdown menu is set to 'Latest', and a 'Filter by' dropdown is set to 'All subjects'. A 'Go' button is located to the right of the filters. On the right side, there is a 'BOOKS LINKS' section with various links like 'Browse books', 'Partner Series', 'Subject Series', 'Author Resources', 'Librarian Resources', 'Pricing and Ordering', 'Webinars', 'myPrint', and 'About IOP ebooks'. Several callout boxes with Chinese text provide instructions: one points to the 'Books' button, another to the search bar, a third to the 'Sort by' and 'Filter by' dropdowns, and a fourth to the 'Author Resources' link. At the bottom right, there are two award logos: 'ALPSP SILVER' (ALPSP Awards for Innovation in Publishing 2014) and 'INTERNATIONAL EXCELLENCE AWARDS 2015' (Nominated in).

Click the Books button on the homepage to enter the eBook page.

You can also use keywords to search for eBook content.

Books can be sorted and filtered by year.

Here you can view more information about eBooks, including collection introductions, series introductions, author resources, library resources, online streaming, and other information.



## 章节页面

The screenshot shows a chapter page on the IOP Publishing website. The page title is "Climate Change Resilience in the Urban Environment". The chapter is "CHAPTER 1 • FREE TO READ" and is titled "Climate change and its impacts" by Tristan Kershaw. It was published in December 2017. The page offers options to download the PDF chapter or the ePub chapter. There are also links to download the complete PDF book, ePub book, or Kindle book. The page includes sections for "Abstract", "References", and "Footnotes". A "Related content" sidebar on the right lists several journal articles. A callout box points to the "Related content" section, stating: "这里您可以找到与本书相关的期刊内容". Another callout box points to the "Abstract" section, stating: "这里您可以快速查看书中的图表和参考文献". A third callout box points to the download buttons, stating: "您可下载章节或按整本书下载". At the bottom, there is a promotional banner for IOP Publishing's peer-review service, with the text: "Want to stay up to date with the latest developments in your field? Join our community of journal reviewers now".

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### Climate Change Resilience in the Urban Environment

CHAPTER 1 • FREE TO READ

## Climate change and its impacts

Tristan Kershaw  
Published December 2017 • Copyright © IOP Publishing Ltd 2017  
Pages 1-1 to 1-27

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Chapter information

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### Abstract

In this chapter we examine the origins of the natural greenhouse effect and the role different atmospheric gases play in creating the Earth's climate. We then consider how anthropogenic emissions are altering the status quo and how scientist try to predict how the weather and climate of the future may be altered.

这里您可以找到与本书相关的期刊内容

### Related content

JOURNAL ARTICLES

- Artificial photosynthesis - CO<sub>2</sub> towards methanol
- Modified dolomite in biomass gasification with aqueous tar
- Controlled CO<sub>2</sub> release from metal-organic frameworks
- Metastable CO<sub>2</sub> discharge
- Tube Wall Measured by Evanescent Laser Spectroscopy
- First Connection between Cold Gas in Emission and Absorption: CO Emission from a Galaxy-Quasar Pair
- Evaluating the Morphology of the Local Interstellar Medium: Using New Data to Distinguish between Multiple Discrete Clouds and a Continuous Medium
- CO<sub>2</sub> sensing properties of electro-spun Ca-doped ZnO fibres

Abstract

- 1.1. The greenhouse effect
- 1.2. The historic climate signal
- 1.3. The anthropogenic greenhouse effect
- 1.4. Climate change projections
- 1.5. Climate change impacts

References

Footnotes

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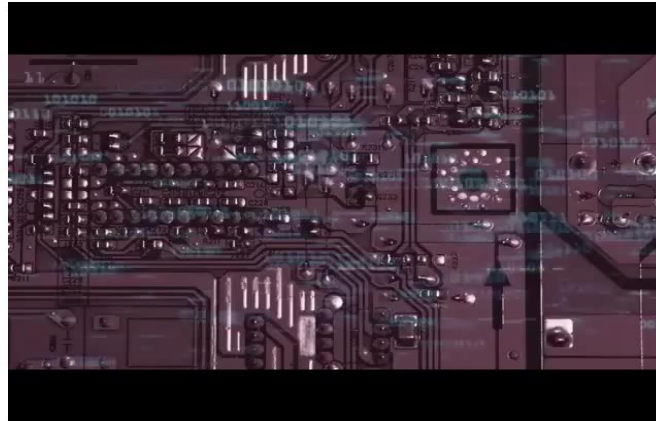
Find out how we review

Climate is a difficult concept for people to deal with, as generally we think in terms of short-term variations or weather, and our memory is drawn towards more extreme events such as heat waves, cold snaps, and storms. Climate, however, is defined as the long-term averages and ranges of different

## 平台功能亮点

### 内置视频

that has given us this high technology life. This is nicely illustrated by Professor Jesper Nygård in the video of figure 1.1. Several research technologies are discussed in this video, and we will treat many of them in the following chapters of this book.

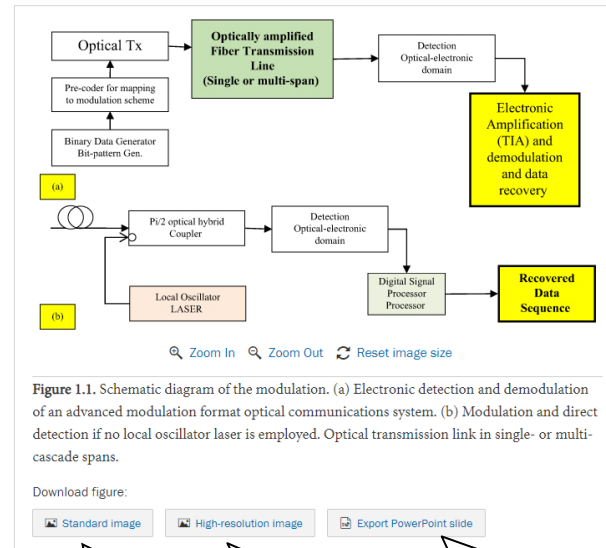


**Figure 1.1.** Jesper Nygård on nanotechnology, artificial atoms, and the future of computing. (Video hosted by Professor [Jesper Nygård](#), Neils Bohr Institute, and produced by the Compound for Neils Bohr Institute, included [here](#) with their permission.)



## 平台功能亮点

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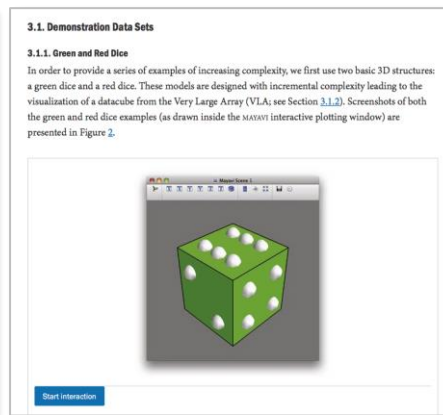
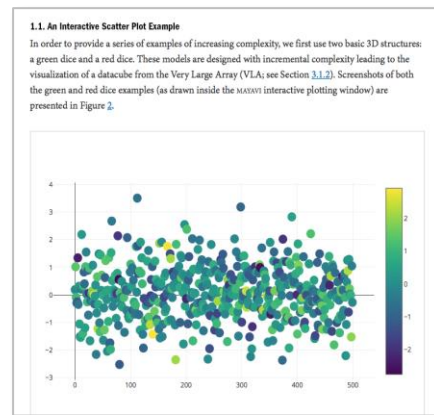
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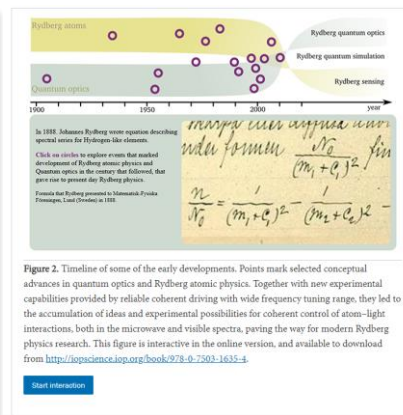
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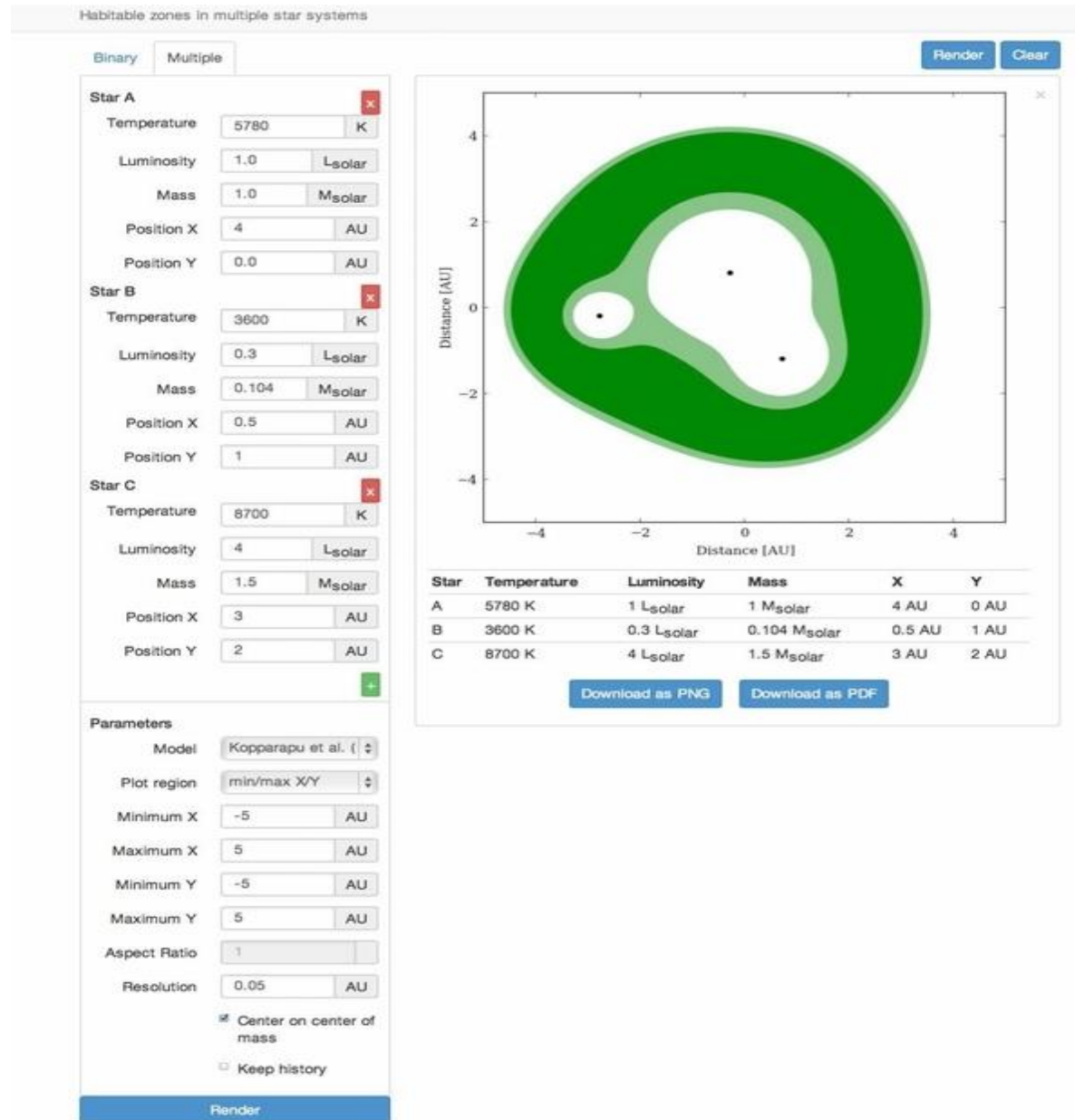
### 交互式图表

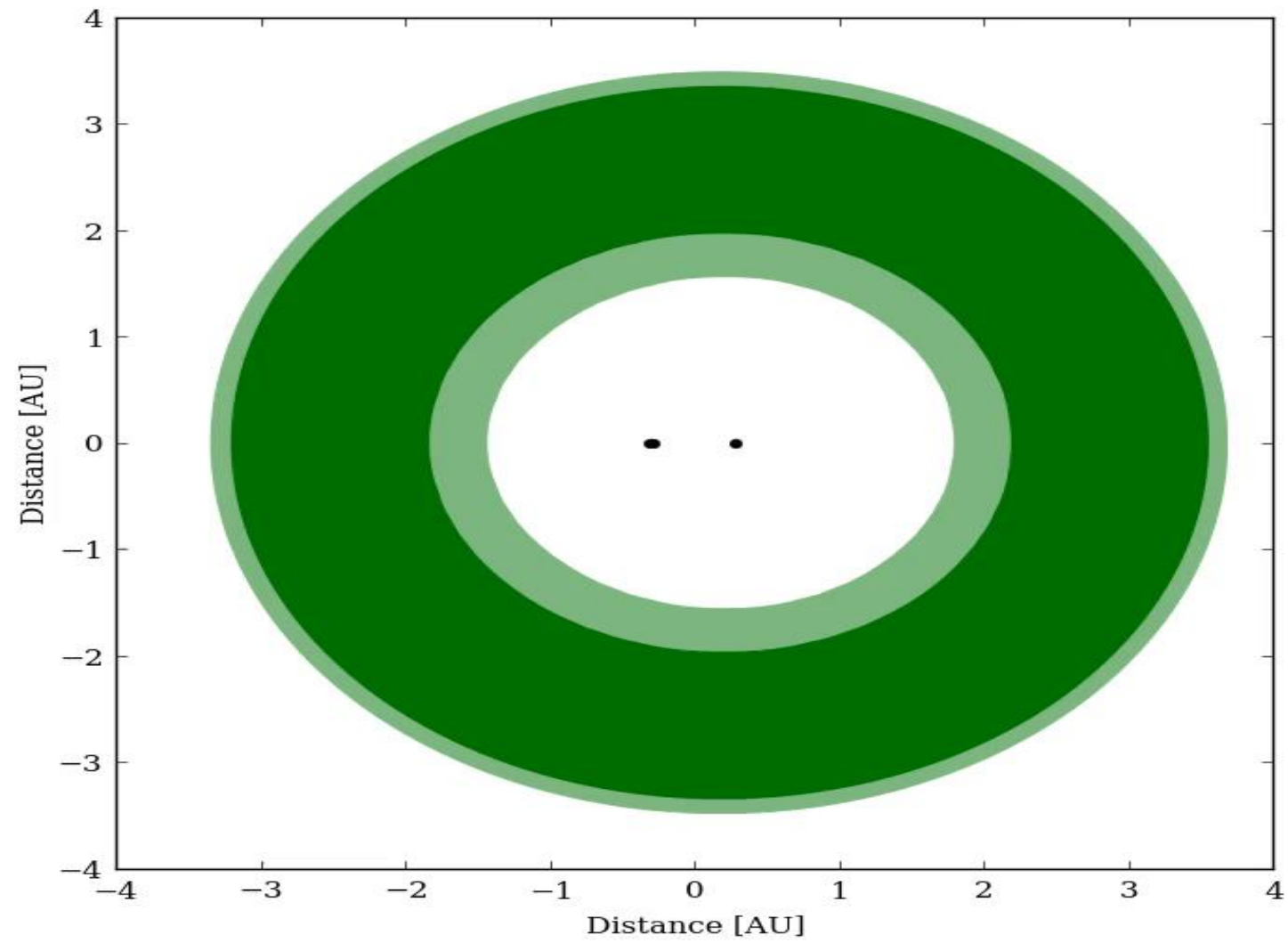


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**Figure 2.** Timeline of some of the early developments. Points mark selected conceptual advances in quantum optics and Rydberg atomic physics. Together with new experimental capabilities provided by reliable coherent driving with wide frequency tuning range, they led to the accumulation of ideas and experimental possibilities for coherent control of atom-light interactions, both in the microwave and visible spectra, paving the way for modern Rydberg physics research. This figure is interactive in the online version, and available to download from <http://iopscience.iop.org/book/978-0-7503-1655-4>.





## 平台功能亮点

### 交互问答 - 习题

#### 1.9. Exercises

**Exercise 1:**

1. The metric on the sphere is given by

$$d\Omega^2 = d\theta^2 + \sin^2\theta d\phi^2. \quad (1.174)$$

Compute the non-zero components of the Christoffel symbol.

2. Compute the non-zero components of the Riemann tensor and the Ricci tensor. Compute the Ricci scalar.  
3. Recall that the metric in polar coordinates on  $R^3$  is given by

$$ds^2 = dr^2 + r^2 d\Omega^2. \quad (1.175)$$

The components of this metric are independent of  $\phi$ . Determine the Killing vector associated with rotation around the  $z$  axis with angle  $\phi$ .

4. Determine the Killing vectors associated with rotations on the sphere. Hint: use  $\partial_x$ ,  $\partial_y$ , and  $\partial_z$  as basis elements.

**Solution 1:**

1.  $\Gamma_{\phi\phi}^{\theta} = -\sin\theta \cos\theta$ ,  $\Gamma_{\theta\theta}^{\phi} = \cot\theta$ .  
2.  $R_{\phi\theta\theta\phi} = \sin^2\theta$ ,  $R_{\theta\phi\phi\theta} = \sin^2\theta$ ,  
 $R_{\theta\theta} = 1$ ,  $R_{\phi\phi} = \sin^2\theta$ ,  $R_{\theta\phi} = 0$ ,  
 $R = 2$ .  
3.  $R = \partial_{\phi} = -y\partial_x + x\partial_y = (-y, x, 0)$ .  
4.  $T = (\vec{r} \times \vec{\partial})_x = (0, -z, y)$ ,  
 $S = (\vec{r} \times \vec{\partial})_y = (z, 0, -x)$ .

点击图片中的“Solution”按钮查看答案

**Exercise 2:**

The metric on the hyperboloid  $H^2$  (Poincaré half-plane) is given by

$$ds^2 = \frac{r^2}{y^2}(dx^2 + dy^2). \quad (1.176)$$



## 平台功能亮点

### 导出公式

The screenshot shows the IOPscience website interface. At the top, there is a navigation bar with 'IOPscience', 'Journals', 'Books', 'Publishing Support', and 'Login'. A search bar is present with the text 'Search IOPscience content'. Below the navigation bar, the page title is 'Lectures on General Relativity, Cosmology and Quantum Black Holes'. The main content area displays 'CHAPTER 1 • FREE TO READ' and 'General relativity essentials' by Badis Ydri. There are buttons for 'PDF chapter' and 'ePub chapter'. A 'Turn on MathJax' button is highlighted with a red box. A callout box with Chinese text points to this button: '点击“Turn on MathJax”开启MathJax功能'. To the right, there is a 'Related content' section with various article titles.

#### 1.6.1. Tidal gravitational forces

Let us first start by describing tidal gravitational forces in Newtonian physics. The force of gravity exerted by an object of mass  $M$  on a particle of mass  $m$  a distance  $r$  away is  $\vec{F} = -\hat{r}GMm/r^2$ , where  $\hat{r}$  is the unit vector pointing from  $M$  to  $m$  and  $r$  is the distance between the center of  $M$  and  $m$ . The corresponding acceleration is  $\vec{a} = -\hat{r}GM/r^2 = -\nabla\phi$ , where  $\phi = -GM/r$ . We assume now that the mass  $m$  is spherical of radius  $\Delta r$ . The distance between the center of  $M$  and the center of  $m$  is  $r$ . The force of gravity exerted by the mass  $M$  on a particle of mass  $m$  is given by  $\vec{F} = -\hat{r}GMm/r^2$ . The corresponding acceleration is

$$\vec{a} = -\hat{r}GM \frac{1}{(r + \Delta r)^2} = -\hat{r}GM \frac{1}{r^2} \left(1 - \frac{2\Delta r}{r} + \dots\right) \quad (1.99)$$

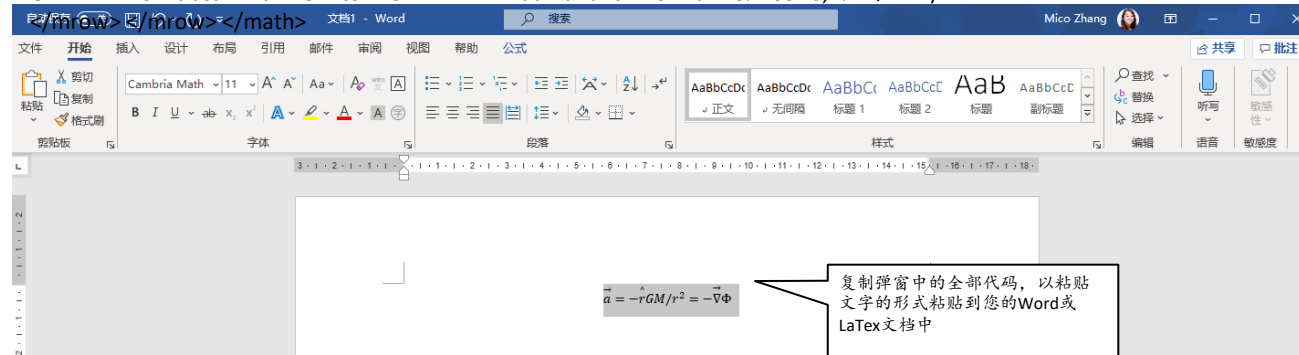
The screenshot shows a context menu for a MathJax formula. The menu items are: 'Show Math As', 'Math Settings', 'Accessibility', 'Language', 'About MathJax', and 'MathJax Help'. A red box highlights the 'Show Math As' option. A callout box with Chinese text points to this option: '鼠标右键点击公式，选择“Show Math As”'.

## 平台功能亮点

```

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<mover> <mi>a</mi> <mo stretchy="false">&#x2192;<!-- --></mo> </mover> </mrow>
<mo>=</mo> <mo>&#x2212;<!-- --></mo> <mrow class="MJX-TeXAtom-ORD"> <mover>
<mi>r</mi> <mo stretchy="false">&#x005E;<!-- ^ --></mo> </mover> </mrow> <mrow class="MJX-
TeXAtom-ORD"> <mi>G</mi> <mi>M</mi> </mrow> <mrow class="MJX-TeXAtom-ORD">
<mo>/</mo> </mrow> <msup> <mrow class="MJX-TeXAtom-ORD"> <mi>r</mi> </mrow> <mrow
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ORD"> <mrow class="MJX-TeXAtom-ORD"> <mi mathvariant="normal">&#x03A6;<!-- Φ --></mi>

```



## 平台功能亮点

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Professor Brian Diffey

***Sun Protection***

*A risk management approach*

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Authors Siddharth V Patwardhan and Sarah S Staniland  
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**The Chandra X-ray Observatory**  
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**The Globular Star Clusters of the Andromeda Galaxy**  
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## 作者直播 Online webinar

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- [Emerging Models for Global Health in Radiation Oncology](#)
- [Effective Science Communications](#)
- [Design and Shielding of Radiotherapy Treatment Facilities](#)
- [Climate Change Resilience in the Urban Environment](#)
- [Astrophysics of Red Supergiants](#)
- [Sun Protection: A risk management approach](#)
- [Fundamentals of Quantum Entanglement](#)

#### Meet the author F J Duarte

Quantum entanglement (QE) is one of the most mysterious and promising subjects in physics. With applications in cryptographic space-to-space, space-to-earth and fibre communications, in addition to teleportation and quantum computing, QE goes beyond fascination and into the pragmatic spheres of commerce and the military. In this webinar author Dr Duarte will guide you through the research behind his book, Fundamentals of Quantum Entanglement. It is the first text to provide a side-by-side description of the philosophical path and the physical path to QE in a clear and cohesive manner.

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