



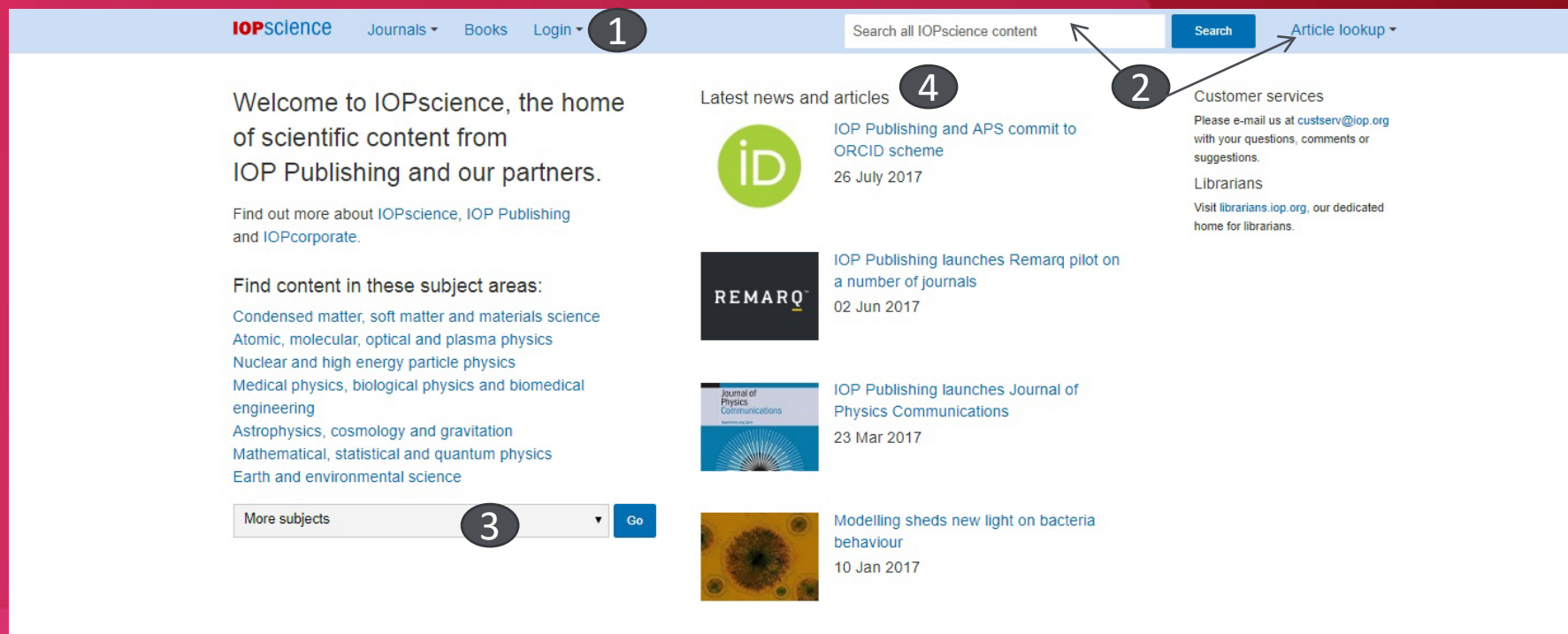
enformation

Ghid de utilizare

IOP
science

Pagina principală

- ❑ Înregistrarea și utilizarea unui cont personal 1.
- ❑ Motorul de căutare în modul de bază, cu posibilitatea de a selecta modul de căutare avansată 2.
- ❑ Accesarea rezultatelor, în funcție de subiectul acestora 3.
- ❑ Secțiunea celor mai noi știri și articole 4.



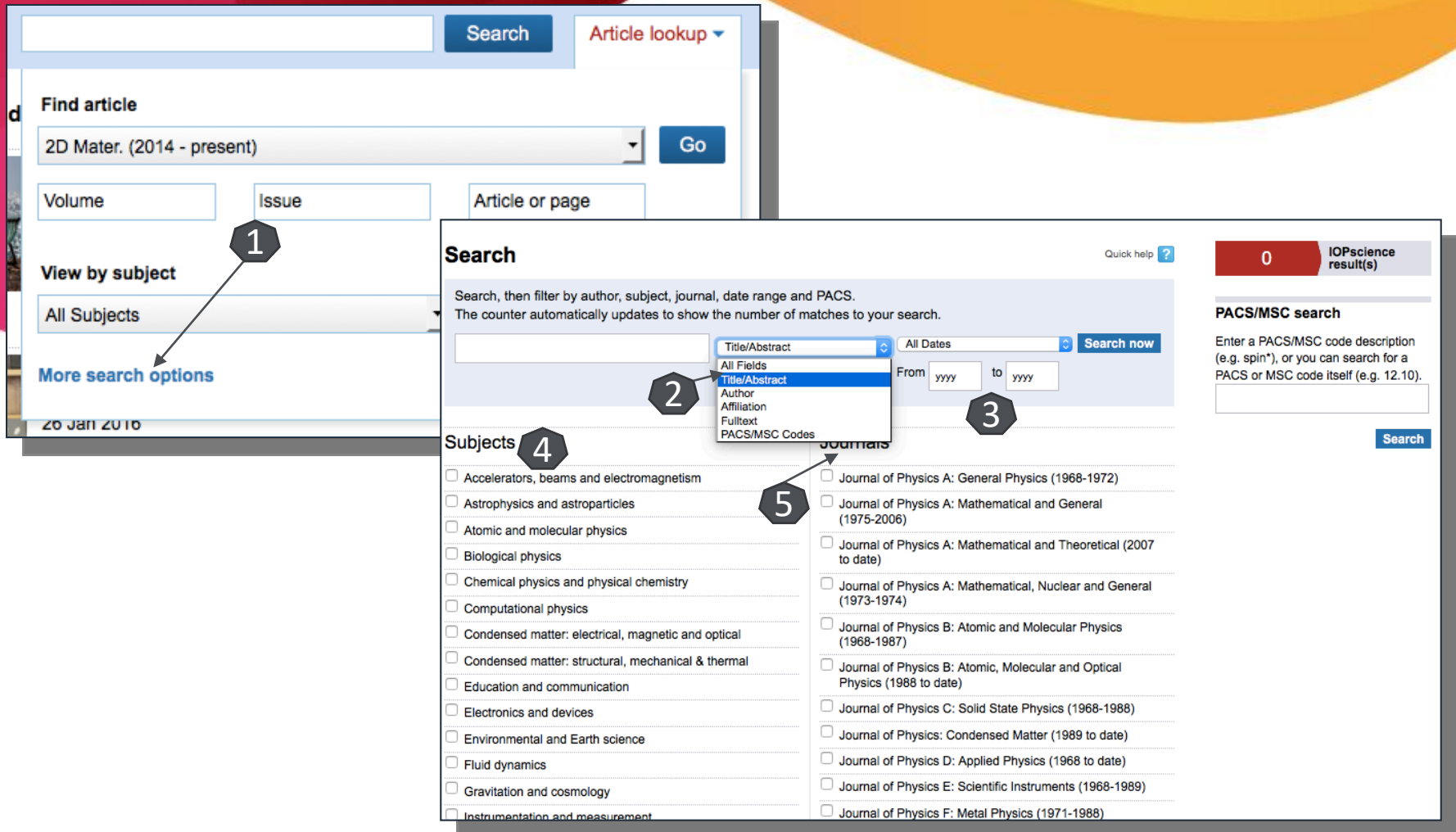
The screenshot shows the IOPscience homepage with the following elements and callouts:

- 1**: Navigation menu with links for Journals, Books, and Login.
- 2**: Search bar with the text "Search all IOPscience content" and a "Search" button, along with an "Article lookup" dropdown menu.
- 3**: A "More subjects" dropdown menu with a "Go" button.
- 4**: The "Latest news and articles" section, which includes:
 - A green "iD" logo for "IOP Publishing and APS commit to ORCID scheme" dated 26 July 2017.
 - A "REMARQ" logo for "IOP Publishing launches Remarq pilot on a number of journals" dated 02 Jun 2017.
 - A "Journal of Physics Communications" logo for "IOP Publishing launches Journal of Physics Communications" dated 23 Mar 2017.
 - A microscopic image logo for "Modelling sheds new light on bacteria behaviour" dated 10 Jan 2017.

Additional content on the page includes a welcome message, subject area lists, and customer service information.

Căutare avansată

- ❑ Căutarea avansată se accesează din „Article lookup” / „More search options” 1.
- ❑ Motorul de căutare avansată permite căutarea de documente, în funcție de diferite criterii. Pentru început, se vor completa câmpurile destinate cuvintelor-cheie, se vor crea legături între ele prin operatori logici, iar apoi se va selecta unul dintre criteriile după care se va face căutarea. Pentru a rafina căutarea, se va selecta și intervalul temporal 3, subiectul 4 sau revista 5 (din care să se efectueze căutarea).



The screenshot displays the IOPscience search interface. On the left, the 'Find article' section shows a search for '2D Mater. (2014 - present)'. Below this, the 'View by subject' section is highlighted with a callout '1' pointing to the 'More search options' link. The main 'Search' section features a search bar with a dropdown menu (callout '2') showing options like 'Title/Abstract', 'All Fields', 'Author', etc. To the right of the search bar, there are filters for 'All Dates' (callout '3') and a date range selector. Below the search bar, there are two columns of filters: 'Subjects' (callout '4') and 'Journals' (callout '5'). The 'Subjects' list includes categories like 'Accelerators, beams and electromagnetism' and 'Astrophysics and astroparticles'. The 'Journals' list includes 'Journal of Physics A: General Physics (1968-1972)' and 'Journal of Physics A: Mathematical and General (1975-2006)'. On the far right, a 'PACS/MSC search' section is visible, showing '0 IOPscience result(s)' and a search box for PACS/MSC codes.

Lista de rezultate

IOPscience Journals Books Login Search Article lookup

Search Results

Welcome to our new search results page, combining journal and book content. The search is still under development and more features will be added over the coming months. We welcome your feedback about new features; please send any comments or suggestions to custserv@iop.org.
The old search results page can be accessed on the Journals tab below, with options for filtering and alerting.

2 Your search (769171) **Journals** **1**

Search for: **769171** IOPscience Result(s)

Page: **Go** 1 of 76918 ▶

Prospects of III-nitride optoelectronics grown on Si
JOURNAL ARTICLE
D Zhu, D J Wallis and C J Humphreys
2013 *Rep. Prog. Phys.* 76 106501 doi:10.1088/0034-4885/76/10/106501
[View abstract](#) [View article](#) [PDF](#) **3**

Elongated nanostructures for radial junction solar cells
JOURNAL ARTICLE
Yinghuan Kuang, Marcel Di Vece, Jatindra K Rath, Lourens van Dijk and Ruud E I Schropp
2013 *Rep. Prog. Phys.* 76 106502 doi:10.1088/0034-4885/76/10/106502
[View abstract](#) [View article](#) [PDF](#)

Diffusion Barrier Mechanism of Extremely Thin Tungsten Silicon Nitride Film Formed by ECR Plasma Nitridation
JOURNAL ARTICLE
Akihiko Hirata, Katsuyuki Machida, Satoshi Maeyama, Yoshio Watanabe and Hakaru Kyuragi
1998 *1347-4065* 37 1251 doi:10.1143/JJAP.37.1251
[View abstract](#) [View article](#) [PDF](#)

Effect of Low-Dose Ion Implantation on the Stress of Low-Pressure Chemical Vapor Deposited Silicon Nitride Films
JOURNAL ARTICLE
Ichiro Yamamoto, Naoki Kasai and Shozo Nishimoto
1998 *1347-4065* 37 1256 doi:10.1143/JJAP.37.1256
[View abstract](#) [View article](#) [PDF](#)

On the consistency of CI calculations using MCHF orbitals
JOURNAL ARTICLE
H Smid and J E Hansen
1985 *0022-3700* 18 L97 doi:10.1088/0022-3700/18/4/001
[View abstract](#) [View article](#) [PDF](#)

Pe pagină, rezultatele vor fi grupate în trei tab-uri: „Your search”, „Journals” și „News and analysis”. Se va selecta tab-ul „Journals” 1.

- Tab-ul „Journals” 1 reprezintă pagina de rezultate asupra căreia se pot efectua modificări și se pot adăuga filtre pentru reorganizarea lor.
- Tab-ul „Your search” 2 afișează rezultatele în formă simplă.
- Opțiunea de a salva căutarea 3. tip PDF

Reports on Progress in Physics

REVIEW ARTICLE

Elongated nanostructures for radial junction solar cells

Yinghuan Kuang¹, Marcel Di Vece¹, Jatindra K Rath¹, Lourens van Dijk¹ and Ruud E I Schropp^{2,3}

Published 3 October 2013 • 2013 IOP Publishing Ltd
Reports on Progress in Physics, Volume 76, Number 10

Article PDF

1

Figures References Citations

Article information

This article was invited by Masud Mansuripur.

Abstract

In solar cell technology, the current trend is to thin down the active absorber layer. The main advantage of a thinner absorber is primarily the reduced consumption of material and energy during production. For thin film silicon (Si) technology, thinning down the absorber layer is of particular interest since both the device throughput of vacuum deposition systems and the stability of the devices are significantly enhanced. These features lead to lower cost per installed watt peak for solar cells, provided that the (stabilized) efficiency is the same as for thicker devices. However, merely thinning down inevitably leads to a reduced light absorption. Therefore, advanced light trapping schemes are crucial to increase the light path length. The use of elongated nanostructures is a promising method for advanced light trapping. The enhanced optical performance originates from orthogonalization of the light's travel path with respect to the direction of carrier collection due to the radial junction, an improved anti-reflection effect thanks to the three-dimensional geometric configuration and the multiple scattering between individual nanostructures. These advantages potentially allow for high efficiency at a significantly reduced quantity and even at a reduced material quality, of the semiconductor material. In this article, several types of elongated nanostructures with the high potential to improve the device performance are reviewed. First, we briefly introduce the conventional solar cells with emphasis on thin film technology, following the most commonly used fabrication techniques for creating nanostructures with a high aspect ratio. Subsequently, several representative applications of elongated nanostructures, such as Si nanowires in realistic photovoltaic (PV) devices, are reviewed. Finally, the scientific challenges and an outlook for nanostructured PV devices are presented.

Export citation and abstract

BibTeX

RIS

1. Introduction

With the explosive growth of world energy demand and the inevitable depletion of fossil fuels, it is becoming more urgent to explore renewable energy resources to reduce the strong reliance of society on primary power generated by fossil fuels, such as oil, coal and natural gas. Solar energy, wind energy, geothermal energy, etc are the most attractive renewable candidates. Among them solar energy is

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1

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Abstract

1. Introduction
 2. Conventional TFSC
 3. Synthesis technologies for elongated nanostructures
 4. Working principles of radial junction solar cells
 5. Overview of device formation and performance
 6. Challenges and solutions
 7. Summary and outlook
- Acknowledgments
- References
- Citations

3

Related content

JOURNAL ARTICLES

A review on plasma-assisted VLS synthesis of silicon nanowires and radial junction solar cells

One-dimensional Si/Ge nanowires and their heterostructures for multifunctional applications—a review

Roadmap on optical energy conversion

Silicon nanowire heterostructures for advanced energy and environmental applications: a review

Review on light management by nanostructures in chalcopyrite solar cells

The state-of-the-art and future development of the photovoltaic technologies – the route from crystalline to nanostructured and new emerging materials

De pe pagina de rezultate, printr-un **click** pe titlul unui articol, se va ajunge la pagina dedicată acestuia.

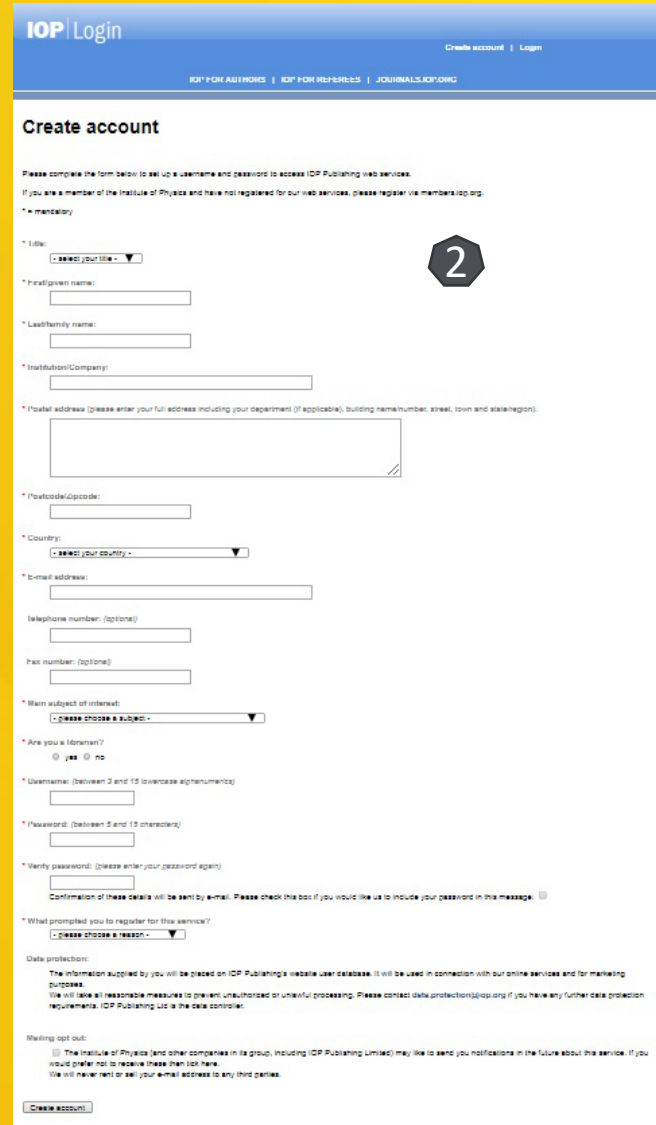
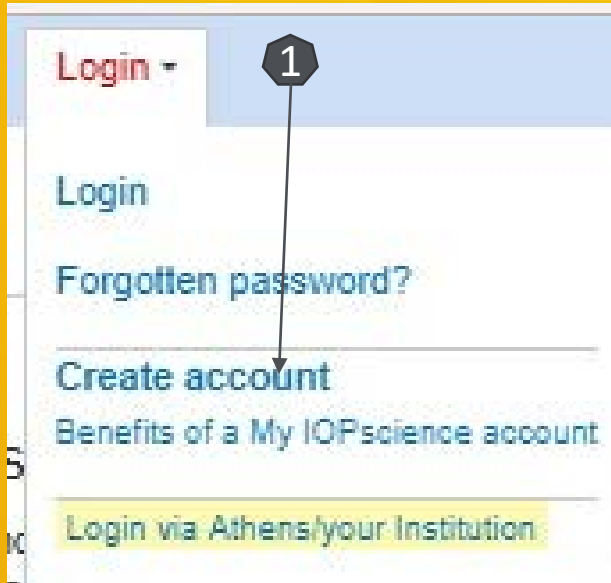
Accesul la articolul integral, în format PDF 1.

Exportul referinței, în format BibTEX, Ris 2.

Navigarea în cuprinsul articolului 3, cu acces la secțiunea de interes.

Creare cont personal

- ❑ Pentru a beneficia de posibilitatea urmării parcursurilor de căutare, de crearea unor alerte prin e-mail sau de gruparea articolelor publicate cu IOP, trebuie activat un cont personal, din tab-ul „Log in” 1. Se selectează din partea de jos „Create account” sau, dacă dați click pe „Log in”, la apariția paginii se selectează „Create account”. Se completează formularul 2 După completarea formularului, se finalizează procesul prin apăsarea butonului „Create Account”. Astfel contul personal devine activ.



The image shows the 'Create account' form on the IOP website. The form is titled 'Create account' and includes the following fields and options:

- Title: dropdown menu (selected: your title)
- First/given name: text input field
- Last/family name: text input field
- Institution/Company: text input field
- Postal address (please enter your full address including your department (if applicable), building name/number, street, town and state/region): text input field
- Postcode/city/zip code: text input field
- Country: dropdown menu (selected: your country)
- E-mail address: text input field
- Telephone number (optional): text input field
- Fax number (optional): text input field
- Main subject of interest: dropdown menu (selected: please choose a subject)
- Are you a librarian?: radio buttons (yes, no)
- Surname (between 2 and 10 lowercase alphanumeric): text input field
- Password (between 5 and 15 characters): text input field
- Verify password (please enter your password again): text input field
- Confirmation of these details will be sent by e-mail. Please check this box if you would like us to include your password in this message: checkbox
- What prompted you to register for this service?: dropdown menu (selected: please choose a reason)
- Data protection: text area with information about data protection and a link to the data protection policy.
- Marketing opt-out: checkbox (selected) for receiving marketing emails from IOP Publishing Limited and other companies in its group.
- Create account button

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