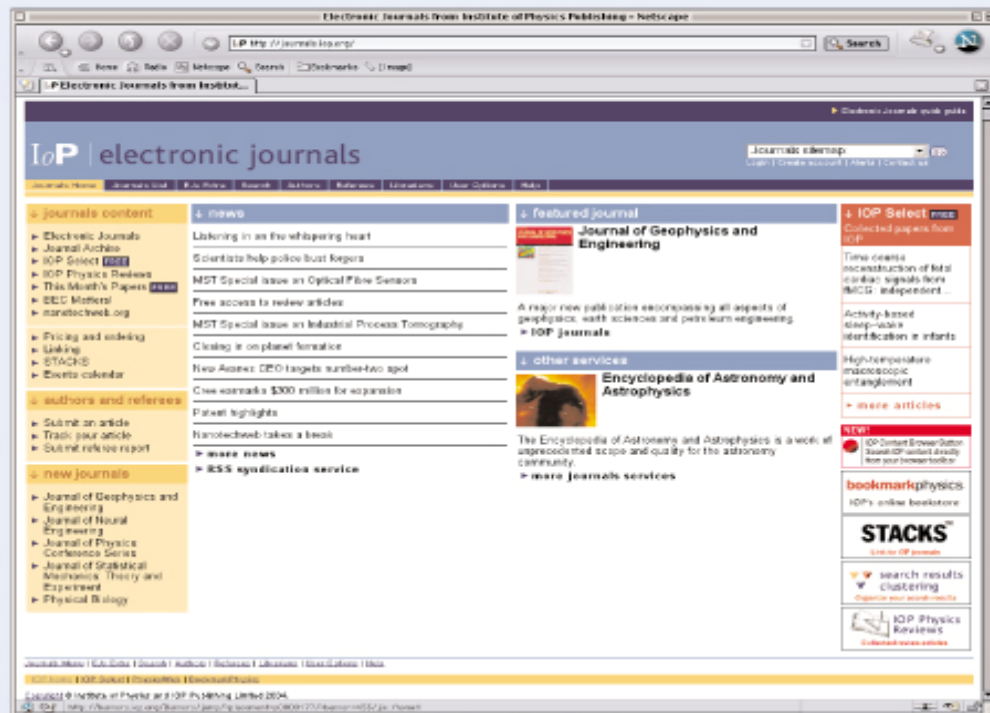


# IOP | elektronik dergileri



## Pratik kullanım rehberi

**journals.iop.org**

Electronic Journals from Institute of Physics Publishing - Netscape

Electronic Journals quick guide

IoP | electronic journals

Journals sitemap:  Go

Login | Create account | Alerts | Contact us

Journals Home Journals List EJs Extra Search Authors Referees Librarians User Options Help

↓ journals content

- Electronic Journals
- Journal Archive
- IOP Select **FREE**
- IOP Physics Reviews
- This Month's Papers **FREE**
- BEC Materials
- nanotechnology
- Pricing and ordering
- Linking
- STACKS
- Events calendar

↓ authors and referees

- Submit an article
- Track your article
- Submit referee report

↓ new journals

- Journal of Geophysics and Engineering
- Journal of Neural Engineering
- Journal of Physics: Conference Series
- Journal of Statistical Mechanics: Theory and Experiment
- Physical Biology

↓ news

Plasma Physics and Controlled Postgraduates

Referee homepages are enhanced

New homepage for Institute of Physics journals

Free online: Waves in Random Media special section on Foliage Penetration

Japanese LED project targets medical uses

Graphite magnets get ready for applications

Nanotechnology in brief

Business briefs

Smart optical cable will replace copper links

more news

RSS syndication service

IOP'den en son haberler

Dergilerimize doğrudan erişim

↓ featured journal

physicalbiology Physical Biology

Fostering the development of emerging fields at the interface of biological sciences with electronic engineering

↓ IOP journals

↓ other services

The Fuel Cell Review - subscribe today

A new bimonthly magazine bringing you competitive intelligence on hydrogen and fuel-cell technologies from around the world.

↓ IOP Select **FREE**

Collected papers from IOP

Nanosecond pulsed electric fields modulate cell function through intracellular...

Physiological assessment of contrast-enhancing frequency shaping and multiband...

Observation of a semimetal-semiconductor phase transition in the...

more articles

IOP Select içinde yeni makaleler

IOP Journal Archive

Back to 1874

author services

Online submission & article tracking

fibers.org

e-mail alerts

An easy way to keep up to date

1 Hierarchical Menu Trees Created

## Dergilerin listesi

The screenshot shows the homepage of the Institute of Physics Publishing's electronic journals. The website has a blue header with the IoP logo and navigation links. A red box highlights the 'JOURNAL ARCHIVE' link in the 'CURRENT JOURNALS' section, with an arrow pointing to a text box that says '1874'e kadar inen yayınladığımız bütün dergilere linkler'. Another red box highlights the 'Dergileri konularına göre göster' link, with an arrow pointing to a text box that says 'Dergileri konularına göre göster'. A third red box highlights the 'Bütün güncel dergilerimize linkler' link, with an arrow pointing to a text box that says 'Bütün güncel dergilerimize linkler'. The website also features a 'News' section, a 'Registered site' section, and a list of journals categorized by subject.

**IoP | electronic journals**

Electronic Journals quick guide

Switch to test  
Journals sitemap:   
Login | Create account | Alerts | Contact us

**Journals Home Journals List EJs Extra Search Authors Referees Librarians User Options Help**

**News:**  
Plasma Physics and Controlled Fusion Prizes for Postgraduates  
Referee homepages are enhanced  
New homepage for Institute of Physics journals  
► All news items RSS news feed About RSS

**Registered site:** IOPP Test Account, All subs  
**Site key:** 2/IOPP  
**Site contact:** Customer Services  
► Journal subscriptions at your site

● CURRENT JOURNALS: **BY TITLE** BY SUBJECT BY PUBLISHING PARTNER  
○ **JOURNAL ARCHIVE** ○ EJs COLLECTIONS

○ Journal of Physics A: Mathematical and General  
○ Journal of Physics B: Atomic, Molecular and Optical Physics  
○ Journal of Physics: Condensed Matter  
○ Journal of Physics D: Applied Physics  
○ Journal of Physics G: Nuclear and Particle Physics  
○ Physics Letters A  
○ Physics Letters B  
○ Physics Letters C  
○ Physics Letters E  
○ Physics Letters F  
○ Physics Letters G  
○ Physics Letters H  
○ Physics Letters I  
○ Physics Letters J  
○ Physics Letters K  
○ Physics Letters L  
○ Physics Letters M  
○ Physics Letters N  
○ Physics Letters O  
○ Physics Letters P  
○ Physics Letters Q  
○ Physics Letters R  
○ Physics Letters S  
○ Physics Letters T  
○ Physics Letters U  
○ Physics Letters V  
○ Physics Letters W  
○ Physics Letters X  
○ Physics Letters Y  
○ Physics Letters Z  
○ European Journal of Physics  
○ Europhysics Letters published by EDP Sciences  
○ Inverse Problems  
○ Izvestiya: Mathematics published by Turpion  
○ Journal of Cosmology and Astroparticle Physics  
○ Journal of Geophysics and Engineering  
○ Journal of High Energy Physics  
○ Journal of Micromechanics and Microengineering  
○ Journal of Neural Engineering  
○ Journal of Optics A: Pure and Applied Optics  
○ Journal of Optics B: Quantum and Nonlinear Optics  
○ Journal of Radiological Protection  
○ Journal of Statistical Mechanics: Theory and Experiment  
○ Journal of Turbulence  
○ Measurement Science and Technology

○ Mendelevyev Communications published by Turpion  
○ Metrologia  
○ Modelling and Simulation in Materials Science and Engineering  
○ Nanotechnology  
○ Network: Computation in Neural Systems  
○ Nonlinearity  
○ Nuclear Fusion  
○ Physical Biology  
○ Physics Education  
○ Physics in Medicine and Biology  
○ Physics-Uspekhi published by Turpion  
○ Physiological Measurement  
○ Plasma Physics and Controlled Fusion  
○ Plasma Sources Science and Technology  
○ Quantitative Finance  
○ Quantum Electronics published by Turpion  
○ Regular & Chaotic Dynamics published by Turpion  
○ Reports on Progress in Physics  
○ Russian Chemical Reviews published by Turpion  
○ Russian Mathematical Surveys published by Turpion  
○ Sbomik: Mathematics published by Turpion  
○ Semiconductor Science and Technology  
○ Materials and Structures  
○ Superconductor Science and Technology  
○ Waves in Random Media

Can't find your journal? We have a complete list of journals in the [journal archive](#)

**Journal of Physics B: Atomic, Molecular and Optical Physics - Netscape**

**IOP | electronic journals** [Electronic Journals quick guide](#)

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap:    
[Login](#) | [Create account](#) | [Alerts](#) | [Contact us](#)

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | **[This Journal](#)** | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)

**► This Journal**  
[Editorial information](#)  
[Scope](#)  
[Editorial board](#)  
[Author benefits](#)  
[Submission address](#)  
[Pricing and ordering](#)  
[Abstracted in](#)  
[Request sample copy](#)  
[jphysb@iop.org](#)  
[Submit an article](#)

**Related content**  
[Linking to IOP journals](#)  
[IOP Select \(new window\)](#)  
[IOP Physics Reviews](#)  
[IOP journal news](#)  
[BEC Matters!](#)  
[IOP books \(new window\)](#)  
[IOP journal archive](#)

**Latest issue (complete)** No 15, 14 August 2004 (L297-L304, 3013-3226)  
**Open issue** No 16, 28 August 2004 (3227-3300)

**Current volume**  
 Number 16, 28 August 2004

**Journal archive**  
 Vol 37, 2004

**Forthcoming articles**  
 An advance list of articles that have been accepted for publication.

**Featured articles**  
[This Month's Papers](#)  
 As a service to authors, all papers published in our journals are free for 30 days from the date of online publication.

**What's new?**  
[Referee homepages are enhanced](#)  
[Institute of Physics journals](#)

**Yazarlar için**

**En yeni sayı ve cilde erişim**

**Bütün eski sayılara erişim**

**Yayınlanmayı bekleyen makaleleri bulmak**

**Journal of Physics B: Atomic, Molecular and Optical Physics**  
 SN 0953-4075 (Print)  
 SN 1361-6455 (Online)  
[e-mail alerts](#)  
 An easy way to keep up to date

**Physics News**  
[Smart optical cable will replace copper links](#) Jul 27  
[Japanese LED project targets medical uses](#) Jul 27  
[Graphite magnets get ready for applications](#) Jul 26  
[Nanotechnology in brief](#) Jul 23  
[Business briefs](#) Jul 23

[RSS: JPhysB latest articles](#)  
[About RSS](#)

**CONTENT FINDER**  
 Journal of Physics B: Atomic, Molecular and Optical Physics   
[Full Search](#)  
[Help](#)  
 Author:  Vol/Year:  Issue/Month:  Page/Article No:

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [This Journal](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#) | [Recommend this journal](#)



Journal of Physics B: Atomic, Molecular and Optical Physics Volume 35, Number 10 - Netscape

**IoP | electronic journals** [Electronic Journals quick guide](#)

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap:  [Login](#) | [Create account](#) | [Alerts](#) | [Contact us](#)

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [This Journal](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)

[Previous Issue](#) | [Next Issue](#) | [This volume](#) | [Content finder](#)

**Volume 35, Number 10, 28 May 2002**

**Özeti gör**

Service to authors and to the international physics community, all papers published in our journals are made freely available for 30 days from the date of online publication. All papers published in the last 30 days can be found in our [This Month's Papers](#) service. [Further information](#), including Conditions of use, is available.

**e-mail alerts**  
An easy way to keep up to date

**LETTERS TO THE EDITOR**

L193 <b>FREE</b>	<b>Energies and dipole moments of long-range molecular Rydberg states</b> <i>M I Chibisov, A A Khuskivadze and I I Fabrikant</i> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (145 KB)   <a href="#">PostScript</a> (182 KB)   <a href="#">HTML</a>
L199 <b>FREE</b>	<b>Shape-resonance-induced long-range molecular Rydberg states</b> <i>Edward L Hamilton, Chris H Greene and H R Sadeghpour</i> <a href="#">Abstract</a>   <a href="#">Multimedia</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (295 KB)   <a href="#">PostScript</a> (343 KB)   <a href="#">HTML</a>
L207 <b>FREE</b>	<b>A shape function for single-photon multiple ionization cross sections</b> <i>Thomas Pattard</i> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (95.6 KB)   <a href="#">PostScript</a> (125 KB)   <a href="#">HTML</a>
L215 <b>FREE</b>	<b>Signature of the target two-electron momentum space wavefunction in the (e, 3e) angular distributions from the double ionization of helium and argon</b> <i>A Lahman-Bennani, C C Jia, A Duguet and L Avaldi</i> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (95.6 KB)   <a href="#">PostScript</a> (128 KB)   <a href="#">HTML</a>

**TOPICAL REVIEW**

F <a href="#">IOP Physics Reviews</a>	<b>Atomic and molecular processes in the early Universe</b> <i>S Lepp, P C Stancil and A Dalgarno</i> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (252 KB)   <a href="#">PostScript</a> (268 KB)
--	---	---

**PAPERS**

2195	<b>Cross sections of slow electron scattering by cadmium atoms</b> <i>J E Kontros, L Szótér, I V Chernyshova and O B Shpenik</i> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (180 KB)   <a href="#">PostScript</a> (225 KB)
2205	<b>Continuum modification and charge exchange in positronium-(anti)proton collisions assisted by an external electromagnetic field</b> <i>A B Voitkov, B Najjari and J Ulrich</i>	

**...veya tam metne eriş**

b21012.pdf (application/pdf Object) - Netscape

Thumbnail

Bookmarks

Thumbnails

Comments

Signatures

199

200

201

202

Doğrudan belirli bir sayfaya gitmek için bu küçük görüntüyü kullanın

INSTITUTE OF PHYSICS PUBLISHING JOURNAL OF PHYSICS B: ATOMIC, MOLECULAR AND OPTICAL PHYSICS

J. Phys. B: At. Mol. Opt. Phys. 35 (2002) L199–L206 PII: S0953-4075(02)36053-X

LETTER TO THE EDITOR


Shape-resonance-induced long-range molecular Rydberg states

Edward L Hamilton<sup>1</sup>, Chris H Greene<sup>1</sup> and H R Sadeghpour<sup>2</sup>

<sup>1</sup> Department of Physics and JILA, University of Colorado, Boulder, CO 80309-0440, USA  
<sup>2</sup> ITAMP, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, USA

Received 22 April 2002  
Published 8 May 2002  
Online at [stacks.iop.org/JPhysB/35/L199](http://stacks.iop.org/JPhysB/35/L199)

**Abstract**  
When an excited atomic electron interacts with a neutral perturbing atom or molecule that possesses a shape resonance, it generates a characteristic class of Born–Oppenheimer potential curves that rise with internuclear distance. We document this effect, and predict the existence of a diverse class of stable, strongly bound atom–atom and atom–molecule states that result from this phenomenon. For the specific case in which Rb is the perturbing atom, we show that such states should be observable in the spectroscopy of an ultracold gas or condensate.

 This article features online multimedia enhancements

When an atom in a low-lying excited state or a Rydberg state is brought near a ground state atom or molecule, much of the interaction derives from simple electron scattering off the ground state species. This picture was developed in a classic paper by Fermi [1] to describe pressure shifts of atomic Rydberg spectral lines. In a high Rydberg state, the electron kinetic

199 (1 of 8) 8.26 x 11.68 in

Done

Shape-resonance-induced long-range molecular Rydberg states - Netscape

IoP | electronic journals

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap: [v] Go  
Login | Cr

Journals Home Journals List EJs Extra This Journal Search Authors Referees Librarians User Options Help

◀ Previous article | Next article ▶ | This volume ▲ | This issue ▲ | Article options & Content finder ▼

Edward L Hamilton *et al* 2002 *J. Phys. B: At. Mol. Opt. Phys.* 35 L199-L206

LETTER TO THE EDITOR

**Shape-resonance-induced long-range molecular Rydberg states**

Edward L Hamilton<sup>1</sup>, Chris H Greene<sup>1</sup> and H R Sadeghpour<sup>2</sup>

<sup>1</sup> Department of Physics and JILA, University of Colorado, Boulder, CO 80309-0440, USA  
<sup>2</sup> ITAMP, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138,

Received 22 April 2002  
Published 8 May 2002  
Print publication: Issue 10 (28 May 2002)

**Abstract.** When an excited atomic electron interacts with a neutral perturbing atom or molecule that possesses a shape resonance, it generates a characteristic class of Born-Oppenheimer potential curves that rise with internuclear distance. We document this effect, and predict the existence of a diverse class of stable, strongly bound atom-atom and atom-molecule states that result from this phenomenon. If Rb is the perturbing atom, we show that such states should be observable in the spectroscopy of an ultracold gas.

doi:10.1088/0953-4075/35/10/102  
URL: <http://stacks.iop.org/0953-4075/35/L199>  
PII: S0953-4075(02)36053-X

**Full text**  
[PDF \(295 KB\)](#) | [HTML](#) | [Gzipped PS \(343 KB\)](#)

M Multimedia  
[References](#)  
[Articles citing this article](#)

**Article options**  
[E-mail abstract](#)  
[Download to citation manager](#)  
[Link to this article](#)  
[Information about Filing Cabinet](#)

**Find related articles**  
By author  
Edward L Hamilton [v]  
☒ IOP  
☐ CrossRef Search  
[Find articles](#)  
[Search highlighted text](#) (Help)

**Recommend**  
[Recommend this article](#)  
[Recommend this journal](#)

**Authors & Referees**  
[Submit an article](#)  
[Track your article](#)  
[Referees](#)

**Reasons to login**  
[Set up an E-mail alert](#)  
[Use your Filing Cabinet](#)  
[Login](#)

IoP select

Tam metne erişim

Özeti e-posta ile gönderin veya kaydedin

İlgili makaleleri bulun

Shape-resonance-induced long-range molecular Rydberg states - Netscape

IoP | electronic journals

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap: [v] Go  
Login | Create account | Alerts | Contact us

Journals Home | Journals List | EJs Extra | This Journal | Search | Authors | Referees | Librarians | User Options | Help

◀ Previous article | Next article ▶ | This volume ▲ | This issue ▲ | Article options & Content finder ▼

Edward L Hamilton *et al* 2002 *J. Phys. B: At. Mol. Opt. Phys.* 35 L199-L206

LETTER TO THE EDITOR

**Shape-resonance-induced long-range molecular Rydberg states**

Edward L Hamilton<sup>1</sup>, Chris H Greene<sup>1</sup> and H R Sadeghpour<sup>2</sup>

<sup>1</sup> Department of Physics and JILA, University of Colorado, Boulder, CO 80309-0440, USA  
<sup>2</sup> ITAMP, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, USA

Received 22 April 2002  
Published 8 May 2002  
Print publication: Issue 10 (28 May 2002)

**Abstract.** When an excited atomic electron interacts with a neutral perturbing atom or molecule that possesses a shape resonance, it generates a characteristic class of Born-Oppenheimer potential curves that rise with internuclear distance. We document this effect, and predict the existence of a diverse class of stable, strongly bound atom-atom and atom-molecule states that result from this phenomenon. For the specific case in which Rb is the perturbing atom, we show that such states should be observable in the spectroscopy of an ultracold gas or condensate.

doi:10.1088/0953-4075/35/10/102  
URL: <http://stacks.iop.org/0953-4075/35/L199>  
PII: S0953-4075(02)36053-X

**Full text**  
[PDF \(295 KB\)](#) | [HTML](#) | [Gzipped PS \(343 KB\)](#)  
[Multimedia](#)  
[References](#)  
[Articles citing this article](#)

**Article options**  
[E-mail abstract](#)  
[Download to citation manager](#)  
[Link to this article](#)  
[Information about Filing Cabinet](#)

**Find related articles**  
By author  
Edward L Hamilton [v]  
☒ IOP  
☐ CrossRef Search  
[Find articles](#)  
[Search highlighted text](#) (Help)

**Recommend**  
[Recommend this article](#)  
[Recommend this journal](#)

**Authors & Referees**  
[Submit an article](#)  
[Track your article](#)  
[Referees](#)

**Reasons to login**  
[Set up an E-mail alert](#)  
[Use your Filing Cabinet](#)  
[Login](#)

IoP select

Done



HyperCite® references - Netscape

IOP | electronic journals ► Electronic Journals quick guide

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap:

[Journals Home](#) [Journals List](#) [EJs Extra](#) [This Journal](#) [Search](#) [Authors](#) [Referees](#) [Librarians](#) [User Options](#) [Help](#)

[This volume ▲](#) | [This issue ▲](#) | [Abstract ▲](#) | [Content finder ▼](#)

## References

Below is the reference list for this article:  
**Shape-resonance-induced long-range molecular Rydberg states**  
Edward L Hamilton, Chris H Greene and H R Sadeghpour 2002 *J. Phys. B: At. Mol. Opt. Phys.* **35** L199-L206

HyperCite® linking technology enables you to link to abstracts, preprints or full text of referenced articles. Links to full text articles from IOP and other publishers are displayed in bold type (access is subject to subscription status). [More information](#) on reference links is available.

- [1] Fermi E 1934 *Nuovo Cimento* **11** 157  
[ChemPort Abstract](#) | [Order from Infotrieve](#)
- [2] Greene C H, Dickinson A S and Sadeghpour H R 2000 *Phys. Rev. Lett.* **85** 2458  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [PubMed Abstract](#) | [Order from Infotrieve](#)
- [3] Weiner J *et al* 1999 *Rev. Mod. Phys.* **71** 1 and references therein  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [Order from Infotrieve](#)
- [4] Kulin S, Killian T C, Bergeson S D and Rolston S L 2000 *Phys. Rev. Lett.* **85** 318  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [PubMed Abstract](#) | [Order from Infotrieve](#)
- [5] Robinson M P, Tolra B L, Noel M W, Gallagher T F and Pillet P 2000 *Phys. Rev. Lett.* **85** 4466  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [PubMed Abstract](#) | [Order from Infotrieve](#)
- [6] Anderson W R, Veale J R and Gallagher T F 1998 *Phys. Rev. Lett.* **80** 249  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [Order from Infotrieve](#)
- [7] Killian T C *et al* 2001 *Phys. Rev. Lett.* **86** 3759  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [PubMed Abstract](#) | [Order from Infotrieve](#)
- [8] Lukin M *et al* 2001 *Phys. Rev. Lett.* **87** 037901  
[CrossRef Link](#)
- [9] Dutta S K, Feldbaum D, Walz-Flannigan A, Guest J R and Raithel G 2001 *Phys. Rev. Lett.* **86** 3993  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [PubMed Abstract](#) | [Order from Infotrieve](#)
- [10] Cote R 2000 *Phys. Rev. Lett.* **85** 5316  
[APS Article](#) | [CrossRef Link](#) | [Inspec Abstract](#) | [ChemPort Abstract](#) | [PubMed Abstract](#) | [Order from Infotrieve](#)

Atıfta bulunulan makalelere linkler

Shape-resonance-induced long-range molecular Rydberg states - Netscape

IoP | electronic journals

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap: [v] Go  
Login | Create account | Alerts | Contact us

Journals Home | Journals List | EJs Extra | This Journal | Search | Authors | Referees | Librarians | User Options | Help

◀ Previous article | Next article ▶ | This volume ▲ | This issue ▲ | Article options & Content finder ▼

Edward L Hamilton *et al* 2002 *J. Phys. B: At. Mol. Opt. Phys.* 35 L199-L206

LETTER TO THE EDITOR

**Shape-resonance-induced long-range molecular Rydberg states**

Edward L Hamilton<sup>1</sup>, Chris H Greene<sup>1</sup> and H R Sadeghpour<sup>2</sup>

<sup>1</sup> Department of Physics and JILA, University of Colorado, Boulder, CO 80309-0440, USA  
<sup>2</sup> ITAMP, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, USA

Received 22 April 2002  
Published 8 May 2002  
Print publication: Issue 10 (28 May 2002)

**Abstract.** When an excited atomic electron interacts with a neutral perturbing atom or molecule that possesses a shape resonance, it generates a characteristic class of Born-Oppenheimer potential curves that rise with internuclear distance. We document this effect, and predict the existence of a diverse class of stable, strongly bound atom-atom and atom-molecule states that result from this phenomenon. For the specific case in which Rb is the perturbing atom, we show that such states should be observable in the spectroscopy of an ultracold gas or condensate.

doi:10.1088/0953-4075/35/10/102  
URL: <http://stacks.iop.org/0953-4075/35/L199>  
PII: S0953-4075(02)36053-X

**Full text**  
[PDF \(295 KB\)](#) | [HTML](#) | [Gzipped PS \(343 KB\)](#)  
[Multimedia](#)  
[References](#)  
[Articles citing this article](#)

**Article options**  
[E-mail abstract](#)  
[Download to citation manager](#)  
[Link to this article](#)  
[Information about Filing Cabinet](#)

**Find related articles**  
By author  
Edward L Hamilton [v]  
☒ IOP  
☐ CrossRef Search  
[Find articles](#)  
[Search highlighted text](#) (Help)

**Recommend**  
[Recommend this article](#)  
[Recommend this journal](#)

**Authors & Referees**  
[Submit an article](#)  
[Track your article](#)  
[Referees](#)

**Reasons to login**  
[Set up an E-mail alert](#)  
[Use your Filing Cabinet](#)  
[Login](#)

IoP select

Bu makaleye atıfta bulunan makaleler

HyperCite® citing articles - Netscape

**IOP | electronic journals** ▶ Electronic Journals quick guide

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap:  Go  
Login | Create account | Alerts | Contact us

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [This Journal](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)

[This volume ▲](#) | [This issue ▲](#) | [Abstract ▲](#) | [Content finder ▼](#)

## Articles citing this article

Below is a list of articles that cite this article:

**Shape-resonance-induced long-range molecular Rydberg states**  
Edward L Hamilton, Chris H Greene and H R Sadeghpour 2002 *J. Phys. B: At. Mol. Opt. Phys.* 35 L199-L206

HyperCite® technology enables you to link to articles that cite the current article. Citing articles from IOP, American Physical Society and NASA's Astrophysics Data System are listed below, with the most recent appearing first.

**Long-Range Molecular Resonances in a Cold Rydberg Gas**  
Farooqi, S. M.; Tong, D.; Krishnan, S.; Stanojevic, J.; Zhang, Y. P.; Ensher, J. R.; Estrin, A. S.; Boisseau, C.; Côté, R.; Eyler, E. E.; Gould, P. L. 2003 *Physical Review Letters* 91  
[APS Article](#) | [Abstract at Astrophysics Data System](#)

**Ultralow-energy electron scattering from alkaline-earth atoms: the scattering-length limit**  
K Bartschat and H R Sadeghpour 2003 *J. Phys. B: At. Mol. Opt. Phys.* 36 L9-L15  
[IOP Article](#)

**Linking Ultracold Polar Molecules**  
Avdeenkov, A. V.; Bohn, John L. 2003 *Physical Review Letters* 90  
[APS Article](#) | [Abstract at Astrophysics Data System](#)

**Adiabatic energy levels and electric dipole moments of Rydberg states of  $\text{Rb}_2$  and  $\text{Cs}_2$  dimers**  
Khushkivadze, A. A.; Chibisov, M. I.; Fabrikant, I. I. 2002 *Physical Review A* 66  
[APS Article](#) | [Abstract at Astrophysics Data System](#)

[This volume ▲](#) | [This issue ▲](#) | [Abstract ▲](#)

**CONTENT FINDER**  
Journal of Physics B: Atomic, Molecular and Optical Physics

[Full Search](#)  
[Help](#)

Author:  Vol/Year:  Issue/Month:  Page/Article No:  Find

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [This Journal](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#) | [Recommend this journal](#)

Copyright © Institute of Physics and IOP Publishing Limited 2004.  
Use of this service is subject to compliance with the terms and conditions of use. In particular, reselling and systematic downloading of files is prohibited. [Cookies](#).

Atıfta bulunan makalenin yayınlandığı The American Physical Society ve NASA'nın Astrophysics Data System'ine, ve yayın kendi dergilerimizde ise oraya da linkler

Shape-resonance-induced long-range molecular Rydberg states - Netscape

IoP | electronic journals

Journal of Physics B:  
Atomic, Molecular and Optical Physics

Switch to test  
Journals sitemap: [v] Go  
Login | Create account | Alerts | Contact us

Journals Home | Journals List | EJs Extra | This Journal | Search | Authors | Referees | Librarians | User Options | Help

◀ Previous article | Next article ▶ | This volume ▲ | This issue ▲ | Article options & Content finder ▼

Edward L Hamilton *et al* 2002 *J. Phys. B: At. Mol. Opt. Phys.* 35 L199-L206

LETTER TO THE EDITOR

**Shape-resonance-induced long-range molecular Rydberg states**

Edward L Hamilton<sup>1</sup>, Chris H Greene<sup>1</sup> and H R Sadeghpour<sup>2</sup>

<sup>1</sup> Department of Physics and JILA, University of Colorado, Boulder, CO 80309-0440, USA  
<sup>2</sup> ITAMP, Harvard-Smithsonian Center for Astrophysics, 60 Garden Street, Cambridge, MA 02138, USA

Received 22 April 2002  
Published 8 May 2002  
Print publication: Issue 10 (28 May 2002)

**Abstract.** When an excited atomic electron interacts with a neutral perturbing atom or molecule that possesses a shape resonance, it generates a characteristic class of Born-Oppenheimer potential curves that rise with internuclear distance. We document this effect, and predict the existence of a diverse class of stable, strongly bound atom-atom and atom-molecule states that result from this phenomenon. For the specific case in which Rb is the perturbing atom, we show that such states should be observable in the spectroscopy of an ultracold gas or condensate.

doi:10.1088/0953-4075/35/10/102  
URL: <http://stacks.iop.org/0953-4075/35/L199>  
PII: S0953-4075(02)36053-X

**Full text**  
[PDF \(295 KB\)](#) | [HTML](#) | [Gzipped PS \(343 KB\)](#)

**M Multimedia**  
[References](#)  
[Articles citing this article](#)

**Article options**  
[E-mail abstract](#)  
[Download to citation manager](#)  
[Link to this article](#)  
[Information about Filing Cabinet](#)

**Find related articles**  
By author  
Edward L Hamilton [v]  
☒ IOP  
☐ CrossRef Search  
[Find articles](#)

[Search highlighted text](#) (Help)

**Recommend**  
[Recommend this article](#)  
[Recommend this journal](#)

**Authors & Referees**  
[Submit an article](#)  
[Track your article](#)  
[Referees](#)

**Reasons to login**  
[Set up an E-mail alert](#)  
[Use your Filing Cabinet](#)  
[Login](#)

IoP select

Multimedia dosyaları



Multimedia enhancements - Netscape

**IOP | electronic journals** [Electronic Journals quick guide](#)

**Journal of Physics B:**  
**Atomic, Molecular and Optical Physics**

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [This J](#)

[This volume](#) | [This issue](#) | [Abstract](#) | [Content finder](#)

**Shape-resonance-induced long-range molecular Rydberg states**  
Edward L Hamilton, Chris H Greene and H R Sadeghpour 2002.

**Multimedia enhancements**

This article's multimedia enhancements are given below. [Help and further information](#) on multimedia in Institute of Physics authors.

**BB3.avi** A surface plot of the Rydberg electron probability position of the lowest minimum in the potential energy curve.

[This volume](#) | [This issue](#) | [Abstract](#)

**CONTENT FINDER**

[Full Search](#) [Help](#)

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [This Journal](#) | [Site Copyright](#) © Institute of Physics and IOP Publishing Limited  
Use of this service is subject to compliance with the terms

**BB3-1.avi**

File Edit Movie Favorites Window Help

00:00:10

Artık daha çok yazar makalelerine multimedya dosyaları ekliyor, bunlar video klipleri, animasyonlar, deneysel veriler ve ek şekiller olabiliyor

Search - Netscape

IoP | electronic journals

Electronic Journals quick guide

Switch to test  
Journals sitemap: [v] Go  
Login | Create account | Alerts | Contact us

Journals Home Journals List EJs Extra Search Authors Referees Librarians User Options Help

Search  
Content finder  
Search history  
custserv@iop.org  
CrossRef search

**CrossRef Search**

You can now search IOP's Electronic Journals, along with those of other publishers, using [CrossRef Search](#).

**Search IOP Electronic Journals**

Either: Search article headers and abstracts:

Dark Matter in Abstract/Title [Help]  
AND [v] in Author [v]  
AND [v] in Affiliation [v]

Or: Search full text of articles:

[Run search] [Run search and cluster results] [What is a cluster?](#)

Select year range:

☒ Search all years [Help]  
☐ Search from Jan 2002 [v] to: Dec 2004 [v]

Select a journal, subject category or EJs Collection:

☒ Search all journals [Help]  
☐ Search specific journal(s)  
[To select more than one journal, hold down the Control key (PC) or Option key (MAC)]

Journal of Physics A: Mathematical and General  
Journal of Physics B: Atomic, Molecular and Optical Physics  
[ includes Journal of Physics B: Atomic and Molecular Physics ]  
Journal of Physics: Condensed Matter  
[ includes Journal of Physics C: Solid State Physics ]  
[ includes Journal of Physics F: Metal Physics ]  
Journal of Physics D: Applied Physics  
[ includes British Journal of Applied Physics ]  
Journal of Physics G: Nuclear and Particle Physics  
[ includes Journal of Physics G: Nuclear Physics ]

Özet ve başlıkları taramak için tarama terim(ler)ini buraya girin

... veya tam metin taramak için buraya

Belirli bir yılı veya yıl aralığını seçin – 1874'e kadar gidilebilir! (isteğe bağlı olarak)

Belirli dergileri veya konu kategorilerini seçin (isteğe bağlı olarak)

Search results - Netscape

IoP | electronic journals [Electronic Journals quick guide](#)

Switch to test  
Journals sitemap:   
[Login](#) | [Create account](#) | [Alerts](#) | [Contact us](#)

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | **Search** | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)

[Previous](#) | [Next](#) | [Export/e-mail results](#) | [Search history](#) | [Modify search](#) | [New search](#) | [Save search](#)

### Search results

[Verity](#)

**Display options**  
☐ Cluster these results by subject [\(Help\)](#)  
☒ 10 results  Sorted by:   [\(Help\)](#)

**Search results**  
**Journals:** All **Search type:** Headers and abstract **Search terms:** dark matter **Date range:** All  
 Your search has found 144 matching articles. Displaying articles 1 to 10:

< Previous 1 2 3 4 5 6 7 8 9 10 Next >

<input type="checkbox"/>	<b>Hybrid dark sector: locked quintessence and dark matter</b> <i>Minos Axenides and Konstantinos Dimopoulos</i> <i>J. Cosmol. Astropart. Phys.</i> JCAP07(2004)010 <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (334 KB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Specific Angular Momentum Distribution of Disc Galaxies Formed in Preheated Intergalactic Media</b> <i>Luo Zhi-Jian, Fu Li-Ping and Shu Cheng-Gang</i> <i>Chinese Phys. Lett.</i> 21 No 7 (July 2004) 1409-1412 <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (222 KB)
<input type="checkbox"/>	<b>The role of antimatter searches in the hunt for supersymmetric dark matter</b> <i>Stefano Profumo and Piero Ullio</i> <i>J. Cosmol. Astropart. Phys.</i> JCAP07(2004)006 <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (1.49 MB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Dilatonic ghost condensate as dark energy</b> <i>Federico Piazza and Shinji Tsujikawa</i> <i>J. Cosmol. Astropart. Phys.</i> JCAP07(2004)004 <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (602 KB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Visible sector supersymmetry breaking revisited</b> <i>Piyush Kumar and Joseph D. Lykken</i> <i>J. High Energy Phys.</i> JHEP07(2004)001 <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (297 KB)   <a href="#">PostScript</a> (154 KB)
<input type="checkbox"/>	<b>DarkSUSY: computing supersymmetric dark matter properties numerically</b> <i>P Gondolo, J Edsjö, P Ullio, L Bergström, M Schelke and E A Baltz</i> <i>J. Cosmol. Astropart. Phys.</i> JCAP07(2004)008	

Tarama sonuçları yayın tarihi sırasına göre ekrana gelir  
(varsayılan ayar)

## Return to Contents 16

**Search results - Netscape**

<input type="checkbox"/>	<a href="#">J. Cosmol. Astropart. Phys. JCAP07(2004)006</a> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (1.49 MB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Dilatonic ghost condensate as dark energy</b> <a href="#">Federico Piazza and Shinji Tsujikawa</a> <a href="#">J. Cosmol. Astropart. Phys. JCAP07(2004)004</a> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (602 KB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Visible sector supersymmetry breaking revisited</b> <a href="#">Piyush Kumar and Joseph D. Lykken</a> <a href="#">J. High Energy Phys. JHEP07(2004)001</a> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (297 KB)   <a href="#">PostScript</a> (154 KB)
<input type="checkbox"/>	<b>DarkSUSY: computing supersymmetric dark matter properties numerically</b> <a href="#">P Gondolo, J Edsjö, P Ullio, L Bergström, M Schelke and E A Baltz</a> <a href="#">J. Cosmol. Astropart. Phys. JCAP07(2004)008</a> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (607 KB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Does positronium form in the universe?</b> <a href="#">Takeshi Chiba and Naoshi Sugiyama</a> <a href="#">J. Cosmol. Astropart. Phys. JCAP06(2004)003</a> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (231 KB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Radion cosmology in theories with universal extra dimensions</b> <a href="#">Anupam Mazumdar, R N Mohapatra and A Pérez-Lorenzana</a> <a href="#">J. Cosmol. Astropart. Phys. JCAP06(2004)004</a> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (894 KB)   <a href="#">HTML</a>
<input type="checkbox"/>	<b>Axino dark matter and the CMSSM</b> <a href="#">Laura Covi, Leszek Roszkowski, Roberto Ruiz de Austri and Michael Small</a> <a href="#">J. High Energy Phys. JHEP06(2004)003</a> <a href="#">Abstract</a>   <a href="#">References</a>	Full text: <a href="#">Acrobat PDF</a> (482 KB)   <a href="#">PostScript</a> (394 KB)

< Previous 1 2 3 4 5 6 7 8 9 10 Next >

Search history | Modify search | New search | Save search

**Tarama sonuçlarınızı aktarın veya e-posta ile gönderin**

**Export/Email search result** [Help](#)

1 This page ▾ Which records do you want to export/e-mail? (use the checkboxes next to each record to select them)

2 **HTML** ▾ In which file format do you wish the records to be exported/e-mailed?

3 Summary (title/author) ▾ How much detail for each record do you wish to export/e-mail?

4 **E-mail** ▾ E-mail address(es):  To where do you want to export/e-mail your chosen records?

[Export Results](#)



Search results - Netscape

IoP | electronic journals

Electronic Journals quick guide

Switch to test  
Journals sitemap:  Go  
Login | Create account | Alerts | Contact us

Journals Home Journals List EJs Extra Search Authors Referees Librarians User Options Help

Previous Next Export/e-mail results Search history Modify search New search Save search

### Search results

Display options  
10 results Summary format Sorted by: Date Natural (Help)  
Redisplay search results

Search results  
Journals: All Search type: Headers and abstract Search terms: E Rutherford Date range: All  
Your search has found 3 matching articles. Displaying articles 1 to 3:  
As fewer than 25 results were found, the clustering option is not available. (Help)

Verity

<input type="checkbox"/>	<b>Further experiments on the artificial disintegration of elements</b> <i>Sir E Rutherford and J Chadwick</i> Proc. Phys. Soc. London 36 No 1 (1923) 417-422 <a href="#">Abstract</a> Full text: <a href="#">Acrobat PDF</a> (417 KB)
<input type="checkbox"/>	<b>A Balance Method for Comparison of Quantities of Radium and Some of its Applications</b> <i>E Rutherford and J Chadwick</i> Proc. Phys. Soc. London 24 No 1 (December 1911) 141-151 <a href="#">Abstract</a> Full text: <a href="#">Acrobat PDF</a> (629 KB)
<input type="checkbox"/>	<b>Radioactive Processes</b> <i>E Rutherford</i> Proc. Phys. Soc. London 18 No 1 (June 1903) 595-600 <a href="#">Abstract</a> Full text: <a href="#">Acrobat PDF</a> (330 KB)

Search history | Modify search | New search | Save search

Export/Email search result (Help)

1 This page Which records do you want to export/e-mail? (use the checkboxes next to each record to select them)

2 HTML In which file format do you wish the records to be exported/e-mailed?

3 Summary (title/author) How much detail for each record do you wish to export/e-mail?

4 E-mail E-mail address(es): To where do you want to export/e-mail your chosen records?

Export Results

Done

E Rutherford tarafından yazılmış makaleler taraması 1903 tarihine kadar giden üç sonuç getirir!

Tam metne erişin

prv36i1p417.pdf (application/pdf Object) - Netscape

Thumbnail

417

418

419

420

# Artificial Disintegration of the Elements. 417

Rutherford ve Chadwick tarafından 1924'de yayınlanmış bir makale

## XXXI.—FURTHER EXPERIMENTS ON THE ARTIFICIAL DISINTEGRATION OF ELEMENTS.

By Sir E. RUTHERFORD, F.R.S., Cavendish Professor of Experimental Physics, and Dr. J. CHADWICK, Fellow of Gonville and Caius College, Cambridge.

Received July 19, 1924.

### ABSTRACT.

In previous Papers the authors have shown that protons can be ejected from the nuclei of B, N, F, Na, Al and P by bombardment with  $\alpha$ -particles, but no certain conclusions could be drawn in cases where the ejected particles had ranges less than 30 cm. in air. In the present experiments these particles were observed at right angles to the path of the incident  $\alpha$ -particles, and the limit of the trustworthy range was thus reduced to 7 cm., or less in some cases. Disintegration was found in the case of the light elements Ne, Mg, Si, S, Cl, A and K, but not in the case of H, He, Li, C and O. The results with Be were doubtful. The following heavier elements failed to show the effect: Ni, Cu, Zn, Se, Kr, Mo, Pd, Ag, Sn, Xe, Au, U. Elements from Ca to Fe have not at present given conclusive results.

The comparative ranges of the ejected particles suggest that the nuclei of the even-numbered light elements are stable while those of the odd-numbered light elements are comparatively unstable. An estimate of the field of force within the atom is deduced from these ranges.

### § I.

IN previous Papers\* we have shown that hydrogen nuclei are ejected from the elements boron, nitrogen, fluorine, sodium, aluminium and phosphorus by bombardment with  $\alpha$ -particles. In these experiments the material subjected to the bombardment was placed immediately in front of the source of  $\alpha$ -particles and observations of the ejected particles were made on a zinc sulphide screen placed in a direct line a few centimetres away using radium C as a source of  $\alpha$ -rays. The ranges.

417 (1 of 6) 6.16 x 8.86 in

Search - Netscape


IoP | electronic journals

Electronic Journals quick guide

Switch to test  
Journals sitemap:   
[Login](#) | [Create account](#) | [Alerts](#) | [Contact us](#)

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)

► [Search](#)  
► [Content finder](#)  
► [Search history](#)  
► [custserv@iop.org](#)  
► [CrossRef search](#)



### CrossRef Search

You can now search IOP's Electronic Journals, along with those of other publishers, using [CrossRef Search](#).

### Search IOP Electronic Journals

Either: Search article headers and abstracts:

dark matter in Abstract/Title   
AND  in Author   
AND  in Affiliation

Or: Search full text of articles:

[What is a cluster?](#)

Select year range:  
☒ Search all years   
☐ Search from  to:

Select a journal, subject category or EJs Collection:  
☒ Search all journals   
☐ Search specific journal(s)  
[To select more than one journal, hold down the Control key (PC) or Option key (MAC)]

Journal of Physics A: Mathematical and General  
Journal of Physics B: Atomic, Molecular and Optical Physics  
[ includes Journal of Physics B: Atomic and Molecular Physics ]  
Journal of Physics: Condensed Matter  
[ includes Journal of Physics C: Solid State Physics ]  
[ includes Journal of Physics F: Metal Physics ]  
Journal of Physics D: Applied Physics  
[ includes British Journal of Applied Physics ]  
Journal of Physics G: Nuclear and Particle Physics  
[ includes Journal of Physics G: Nuclear Physics ]

İlgilendiğiniz makaleleri daha kolay bulmak için tarama sonuçlarınızı gruplandırın

Search results clustered by subject - Netscape

IoP | electronic journals

[Electronic Journals quick guide](#)

Switch to test

Journals sitemap:
Go

[Login](#) | [Create account](#) | [Alerts](#) | [Contact us](#)

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)

[Return to main search results](#) | [Search history](#) | [Modify search](#) | [New search](#) | [Save search](#) | [Content finder](#)

## Search results clustered by subject

Additional search options  
Export your search results, access your search history and save searches from the [main search results page](#).  
Clustering is a [new service](#). Please [tell us what you think](#).

dark matter

- Neutrino
- Neutralino
- Gravitational
- Scalar field
- Dark energy**
- BOSY, MSUGRA**
- Cosmic microwave background
- Black holes
  - Gravitational, Dwarfs
    - General relativistic boson stars
    - Stochastic backgrounds at LISA frequencies**
    - Halo dark matter detection through gravitational lensing
    - Gravitational Physics: Exploring the Structure of Space and Time
    - Dark matter and stable bound states of primordial black holes
  - Hawking, Dimensional
  - Other Topics
- Inflation
- Brane, Evolution
- Galaxy formation
- Big Bang

Category **dark matter** contains **144** documents.

### 1. Hybrid dark sector: locked quintessence and dark matter

*Minos Axenides and Konstantinos Dimopoulos*  
*Journal of Cosmology and Astroparticle Physics* **2004** No 07 (July 2004) 010  
[View article in new window](#)

We present a unified model of dark matter and dark energy. The dark matter field is a modulus corresponding to a flat direction of supersymmetry, which couples, in a hybrid type potential, with the dark energy field. The latter is a light scalar, whose direction is stabilized by non-renormalizable terms. This quintessence field is kept 'locked' on top of a false vacuum due to the coupling with the oscillating dark matter field. It is shown that the model can satisfy the observations when we consider low-scale gauge-mediated supersymmetry breaking. The necessary initial conditions are naturally attained by the action of supergravity corrections on the potential, in the period following the end of primordial inflation.

### 2. Specific Angular Momentum Distribution

*Luo Zhi-Jian, Fu Li-Ping and Shu Cheng-Gan*  
*Chinese Physics Letters* **21** No 7 (July 2004) 1409-1412  
[View article in new window](#)

Assuming that baryons within a galactic halo have the same specific angular momentum as the dark matter where they locate initially and a disc forms due to the gas cooling and condensation with the conservation of angular momentum, we investigate the angular momentum distribution in a resulting galactic disc under the new preheated galaxy formation model suggested by Mo and Mao (Mon. Not. R. Astron. Soc. 333 (2002) 768). Compared with the observational results, it can be concluded that the preheated galaxy formation model can match current observations. This model can be a good approach to solve the problems of both the angular momentum catastrophe and the mismatch of angular-momentum profiles in current disc galaxy formation models.

### 3. The role of antimatter searches in the hunt for supersymmetric dark matter

*Stefano Profumo and Piero Ullio*  
*Journal of Cosmology and Astroparticle Physics* **2004** No 07 (July 2004) 006  
[View article in new window](#)

Media



Electronic Journals from Institute of Physics Publishing: Current journals by title - Netscape

IOPP | electronic journals

Journals sitemap: [Go] Login | Create account | Alerts | Contact us

**Journals Home Journals List EJs Extra Search Authors Referees Librarians User Options Help**

**News:**  
[Plasma Physics and Controlled Fusion Prizes for Postgraduates](#)  
[Referee homepages are enhanced](#)  
[New homepage for Institute of Physics journals](#)  
[All news items](#) [RSS news feed](#) [About RSS](#)

**Registered site:** IOPP Test Account, All subs  
**Site key:** 2/IOPP  
**Site contact:** [Customer Services](#)  
[Journal subscriptions at your site](#)

● CURRENT JOURNALS: **BY TITLE** BY SUBJECT BY PUBLISHING PARTNER  
 ○ JOURNAL ARCHIVE ○ EJs COLLECTIONS

○ [Journal of Physics A: Mathematical and General](#)  
 ○ [Journal of Physics B: Atomic, Molecular and Optical Physics](#)  
 ○ [Journal of Physics: Condensed Matter](#)  
 ○ [Journal of Physics D: Applied Physics](#)  
 ○ [Journal of Physics G: Nuclear and Particle Physics](#)  
 ○ [Journal of Physics: Conference Series](#) new  
 ○ [New Journal of Physics](#)

○ [Chinese Physics](#)  
 ○ [Chinese Physics Letters](#)  
 ○ [Classical and Quantum Gravity](#)  
 ○ [Combustion Theory and Modelling](#)  
 ○ [European Journal of Physics](#)  
 ○ [Europhysics Letters](#) published by [Turpion](#)  
 ○ [Inverse Problems](#)  
 ○ [Izvestiya: Mathematics](#) published by [Turpion](#)  
 ○ [Journal of Cosmology and Astroparticle Physics](#)  
 ○ [Journal of Geophysics and Engineering](#) new  
 ○ [Journal of High Energy Physics](#)  
 ○ [Journal of Micromechanics and Microengineering](#)  
 ○ [Journal of Neural Engineering](#) new  
 ○ [Journal of Optics A: Pure and Applied Optics](#)  
 ○ [Journal of Optics B: Quantum and Semiclassical Optics](#)  
 ○ [Journal of Radiological Protection](#)  
 ○ [Journal of Statistical Mechanics: Theory and Experiment](#) new  
 ○ [Journal of Turbulence](#)  
 ○ [Measurement Science and Technology](#)

○ [Mendelev Communications](#) published by [Turpion](#)  
 ○ [Metrologia](#)  
 ○ [Modelling and Simulation in Materials Science and Engineering](#)  
 ○ [Nanotechnology](#)  
 ○ [Network: Computation in Neural Systems](#)  
 ○ [Nonlinearity](#)  
 ○ [Nuclear Fusion](#)  
 ○ [Physical Biology](#) new  
 ○ [Physics Education](#)  
 ○ [Physics in Medicine and Biology](#)  
 ○ [Physics-Uspokhi](#) published by [Turpion](#)  
 ○ [Physiological Measurement](#)  
 ○ [Physics and Controlled Fusion](#)  
 ○ [Resources Science and Technology](#)  
 ○ [Science Finance](#)  
 ○ [Electronics](#) published by [Turpion](#)  
 ○ [Regular & Chaotic Dynamics](#) published by [Turpion](#)  
 ○ [Reports on Progress in Physics](#)  
 ○ [Russian Chemical Reviews](#) published by [Turpion](#)  
 ○ [Russian Mathematical Surveys](#) published by [Turpion](#)  
 ○ [Sbornik: Mathematics](#) published by [Turpion](#)  
 ○ [Semiconductor Science and Technology](#)  
 ○ [Smart Materials and Structures](#)  
 ○ [Superconductor Science and Technology](#)  
 ○ [Waves in Random Media](#)

Can't find your journal? We have a complete list of journals in the [journal archive](#).

**CONTENT FINDER**  
 Full Search Help

New Journal of Physics [v]  
 Author: [ ] Vol/Year: [ ] Issue/Month: [ ] Page/Article No: [ ] Find

Journals Home | Journals List | EJs Extra | Search | Authors | Referees | Librarians | User Options | Help

İçerik Bulucu (Content Finder) her sayfada bulunabilir

... belirli makalelere hızlı erişim olanağı sağlar

IoP | electronic journals

Electronic Journals quick guide

Switch to test  
Journals sitemap: [v] Go  
Login | Create account | Alerts | Contact us

Journals Home | Journals List | EJs Extra | Search | Authors | Referees | Librarians | **User Options** | Help

**Kişiselleştirme seçenekleri**

**User options**

To take advantage of these options, you first need to [Login](#), or if you're new to our Electronic Journals, you need to [create an account](#).

The following personalization options are available:

- **E-mail alerting service** [Help](#)  
This popular and time-saving option is designed to keep you up-to-date with the publication of new articles within your chosen subject area. Two types of alerts are available: standard tables of contents alerts and enhanced alerts, based on your own criteria (keywords etc.).
- **Filing Cabinet** [Help](#)  
The Filing Cabinet helps you to track your favourite articles. It allows you to keep an online record of any articles that you have marked of interest so that you can quickly and easily return to them. You can also add your own personal notes that will be displayed with the article's abstract.
- **Save your searches** [Help](#)  
Following a search, you can save it in your Search history for future use, so that you can return to it and rerun it whenever you wish.
- **Personal Journals List** [Help](#)  
To help you to get to the information you want as easily as possible, you can use this option to create your own Personal Journals List. Once enabled, the standard Journals List (on our EJs home page) will be replaced with one that only contains the journals you selected.

**Bunlar için kullanıcı adı ve şifre yaratın**

**CONTENT FINDER**

New Journal of Physics [v]  
Full Search  
Help  
Author: [ ] Vol/Year: [ ] Issue/Month: [ ] Page/Article No: [ ] Find

Journals Home | Journals List | EJs Extra | Search | Authors | Referees | Librarians | User Options | Help  
Copyright © Institute of Physics and IOP Publishing Limited 2004.  
Use of this service is subject to compliance with the terms and conditions of use. In particular, reselling and systematic downloading of files is prohibited. [Cookies](#).

**E-mail alerting service - Netscape**

**IOP | electronic journals** [Electronic Journals quick guide](#)

Switch to test  
Journals sitemap:    
[Login](#) | [Create account](#) | [Alerts](#) | [Contact us](#)

[Journals Home](#) | [Journals List](#) | [EJs Extra](#) | [Search](#) | [Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)

[User options](#)  
[Create account](#)  
[Lost password](#)  
[custserv@iop.org](#)

**E-mail alerting service**

You can create two types of e-mail alerts:

**Table of Contents (TOC) alerts**

Our standard TOC alerting service enables you to receive the Tables of Contents of your favourite IOP journals as soon as issues are published online. We can also send you updates on our popular journal services such as [IOP Select](#) and [IOP Physics Reviews](#).

**Enhanced alerts**

Our enhanced alerting service allows you to enter more flexible alerting criteria including key words, so that whenever articles matching your criteria are published, you automatically receive alerts containing their details.

To take advantage of this option, you need to [Login](#). If you don't already have a username and password for our Electronic Journals service/IOP Select, please [create an account](#)

**Sayılar online olarak yayınlandığı an içindekiler Sayfalarını almak**

**İki tür uyarı mevcuttur**

**... veya kendi kriterlerinize göre uyarı oluşturma (yazar adları veya anahtar kelimeler)**

Vol/Year:  Issue/Month:  Page/Article No:   
[Authors](#) | [Referees](#) | [Librarians](#) | [User Options](#) | [Help](#)  
g Limited 2004.  
Use of this service is subject to compliance with the terms and conditions of use. In particular, re is prohibited. [Cookies](#).

The screenshot shows the IOP electronic journals website interface. The browser window is titled "EJs Extra - Netscape". The website header includes the IOP logo and "electronic journals" text. A navigation bar contains links: Journals Home, Journals List, EJs Extra (highlighted), Search, Authors, Referees, Librarians, User Options, and Help. A sidebar on the left lists "This Month's Papers", "IOP Select", "BEC Matters!", and "IOP Physics Reviews". The main content area features several sections with red arrows pointing to them from external text boxes:

- Ek dergi hizmetleri** (Additional journal services) points to the "EJs Extra" link in the navigation bar.
- Son 30 günde yayınlanmış yazılara ücretsiz erişim** (Free access to articles published in the last 30 days) points to the "This Month's Papers" link.
- Çok önemli ve yeni yazılara ücretsiz erişim** (Free access to very important and new articles) points to the "IOP Select" link.
- Bose-Einstein yoğunlaşma ve madde dalgaları topluluğu kaynaklarına erişim** (Access to sources of Bose-Einstein condensation and matter wave community) points to the "IOP Physics Reviews" link.
- Dergilerimizde yayınlanan inceleme makalelerine erişim** (Access to review articles published in our journals) points to the "CONTENT FINDER" section.

The "CONTENT FINDER" section includes a search bar with "New Journal of Physics" entered, a "Full Search" button, and a "Page/Article No:" field with a "Find" button. The footer contains copyright information: "Copyright © Institute of Physics and IOP Publishing Limited 2004." and a disclaimer: "Use of this service is subject to compliance with the terms and conditions of use. In particular, reselling and systematic downloading of files is prohibited. Cookies."



Electronic Journals from Institute of Physics Publishing: Current journals by title - Netscape

Electronic Journals quick guide

IoP | electronic journals

Switch to test Journals sitemap: Go Login | Create account | Alerts | Contact us

Journals Home Journals List EJs Extra Search Authors Referees Librarians User Options Help

**News:**  
 Plasma Physics and Controlled Fusion Prizes for Postgraduates  
 Referee homepages are enhanced  
 New homepage for Institute of Physics journals  
 All news items RSS news feed About RSS

**Registered site:** IOPP Test Account, All subs  
**Site key:** 2/IOPP  
**Site contact:** Customer Services  
 Journal subscriptions at your site

**İletişim Bilgileri**

**Yazar, hakem ve kütüphaneciler için önemli bilgiler ve hizmetler**

**Kurumunuzun adı ve site anahtar bilgisi burada yer alır**

**Bağlam-duyarlı yardım sayfaları**

● CURRENT JOURNALS: BY TITLE  
 ○ JOURNAL ARCHIVE ○ EJs COLLEGE

○ Journal of Physics A: Mathematical and Theoretical Physics  
 ○ Journal of Physics B: Atomic, Molecular and Optical Physics  
 ○ Journal of Physics: Condensed Matter  
 ○ Journal of Physics D: Applied Physics  
 ○ Journal of Physics G: Nuclear and Particle Physics  
 ○ Journal of Physics: Conference Series new  
 ○ New Journal of Physics

○ Chinese Physics  
 ○ Chinese Physics Letters  
 ○ Classical and Quantum Gravity  
 ○ Combustion Theory and Modelling  
 ○ European Journal of Physics  
 ○ Europhysics Letters published by EDP Sciences  
 ○ Inverse Problems  
 ○ Izvestiya: Mathematics published by Turpion  
 ○ Journal of Cosmology and Astroparticle Physics  
 ○ Journal of Geophysics and Engineering new  
 ○ Journal of High Energy Physics  
 ○ Journal of Micromechanics and Microengineering  
 ○ Journal of Neural Engineering new  
 ○ Journal of Optics A: Pure and Applied Optics  
 ○ Journal of Optics B: Quantum and Semiclassical Optics  
 ○ Journal of Radiological Protection  
 ○ Journal of Statistical Mechanics: Theory and Experiment new  
 ○ Journal of Turbulence  
 ○ Measurement Science and Technology

○ Mendelevy Communications published by Turpion  
 ○ Metrologia  
 ○ Modelling and Simulation in Materials Science and Engineering  
 ○ Nanotechnology  
 ○ Network: Computation in Neural Systems  
 ○ Nonlinearity  
 ○ Nuclear Fusion  
 ○ Physical Biology new  
 ○ Physics Education  
 ○ Physics in Medicine and Biology  
 ○ Physics-Uspekhi published by Turpion  
 ○ Physiological Measurement  
 ○ Plasma Physics and Controlled Fusion  
 ○ Plasma Sources Science and Technology  
 ○ Quantitative Finance  
 ○ Quantum Electronics published by Turpion  
 ○ Regular & Chaotic Dynamics published by Turpion  
 ○ Reports on Progress in Physics  
 ○ Russian Chemical Reviews published by Turpion  
 ○ Russian Mathematical Surveys published by Turpion  
 ○ Sbornik: Mathematics published by Turpion  
 ○ Semiconductor Science and Technology  
 ○ Smart Materials and Structures  
 ○ Superconductor Science and Technology  
 ○ Waves in Random Media

Can't find your journal? We have a complete list of journals in the journal archive