

# New Journal of Physics

**njp.org**

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## Introduction

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- **Background to New Journal of Physics**
- **Current status of the Journal.**
- **Electronic-only refereeing**
- **What next?**

New Journal of Physics - the beginning.

- **The idea for NJP was born in 1996.**
- **Partnership of IOP with the Deutsche Physikalische Gesellschaft (DPG) signed April 1998.**
- **Editorial Board in place by August 1998.**
- **First articles published on 18 Dec 1998.**

## NJP: Key Features (I)

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- **Editorial policy and Journal content:**
  - scientific quality
  - broad coverage
  - high interest
- **Web based - all electronic (njp.org)**
  - submissions, peer review, proofs, web access
  - multimedia, additional data, colour photos
  - linking
  - articles published incrementally
  - full text in HTML and PDF

## NJP: Key Features (II)

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- **Publishing model**
  - free to all readers
  - article charge (\$500) for published authors
- **Partnership**
  - Institute of Physics and German Physical Society
  - Dutch, Polish, Australian and Swiss Physical Societies joined as Associates

# New Journal of Physics

An Institute of Physics & Deutsche Physikalische Gesellschaft journal

Electronic Journals service

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NJP information

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## Welcome

**New Journal of Physics** (*NJP*) is a peer-reviewed, all-electronic journal publishing original research in all areas of physics. The journal's Editors and staff are committed to building *NJP* into the leading scientific journal in its field by publishing articles of outstanding scientific quality that merit the attention and interest of all physicists. *NJP* is available without charge to readers around the world via the Internet. *NJP* is funded by article charges from authors of published papers.

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## Outstanding research

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## Volume 1, 1998-1999

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*Dirk Helbing and Tamás Vicsek* (13 August 1999)  
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- 12** **Entanglement effects in defect-free model polymer networks** (General physics)  
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*Yufaka Okabe* (24 May 1999)  
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- 9** **The electron analogue to the Faraday rotation** (Condensed matter: electronic structure, electrical, magnetic and optical properties)  
*W Weber, D Oberli, S Riesen, and H C Siegmann* (24 May 1999)  
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- 8** **Reactive re-oxidation of reduced TiO<sub>2</sub>(110) surfaces demonstrated by high temperature STM movies** (Condensed matter: structure, mechanical and thermal properties)  
*P Stone, R A Bennett and M Bowker* (19 May 1999)  
Full Text: [HTML](#) (8.9MB) | [Acrobat PDF](#) (2.1MB) | [Multimedia](#)
- 7** **Numerical renormalization approach to two-dimensional quantum antiferromagnets with valence-bond-solid type ground state** (Condensed matter: electronic structure, electrical, magnetic and optical properties)  
*Yasuhiro Hieida, Kouichi Okunishi and Yasuhiro Akutsu* (22 April 1999)  
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- 6** **Single molecule force spectroscopy by AFM indicates helical structure of poly(ethylene-glycol) in water** (Condensed matter: structure, mechanical and thermal properties)  
*F Oesterhelt, M Rief and H E Gaub* (24 March 1999)  
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- 5** **The role of TDAE for the magnetism in [TDAE]C<sub>60</sub>** (Condensed matter: electronic structure, electrical, magnetic and optical properties)  
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New J. Phys. **1** (December 1998) 2  
PII: S1367-2630(98)97147-6

## Near-threshold electron impact dissociation of H<sub>2</sub> within the adiabatic nuclei approximation

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**Abstract.** At low energies, the major pathway for the electron-impact dissociation of H<sub>2</sub> ( $e + \text{H}_2 \rightarrow \text{H}(1s) + \text{H}(1s) + e$ ) is through excitation to the  $b^3\Sigma_u^+$  dissociative state. We present *ab initio* calculations of the rate of dissociation as a function of initial vibrational level. The calculations employ an extension to the adiabatic nuclei approximation, balancing the energy between the electrons and the nuclei, for excitation to a dissociation continuum. We find that near-threshold rates show so strong a dependence on the initial H<sub>2</sub> vibrational level that the common practice of approximating the total dissociation rate to the  $v = 0$  rate is invalid in many situations.

### Article Options:

 HTML (34KB)

 Acrobat PDF (249KB)

 References - including HyperCite™ links

 Multimedia Enhancements



## Current Status of NJP

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- **SPARC endorsement in 1999**
- **State of Utah acceptance and promotion**
- **83 Submissions to date**
  - 28 papers accepted and published online
  - 11 currently being reviewed, 2 accepted
  - 42 rejected as unsuitable for the Journal
  - 4th largest down-load Journal of IOPP

**Current Status of NJP** (29/Feb/00)

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- **Web access statistics**
  - 56,823 hits to the TOC
    - 31,454 from registered sites
    - 25,369 from unregistered sites
  - 14,397 PDF full text download
    - 6,508 from unregistered sites
    - 7,889 from registered sites
  - 19,019 HTML full text download
    - 6,916 from unregistered sites
    - 12,103 from registered sites

## A few concerns

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- **Computer incompatibility**
  - File formats and size of files
- **How to get information to referees without hitting information overload.**
- **How to communicate the success to authors...**
- **Access to web site**

## Feedback from physicists...

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- **Positive feedback from referees...**

**“Yes I like the refereeing procedure this way. Yes. Yes. Yes.”**

**“...viewing the images on the computer is an improvement because of the better resolution and colours. The animated GIF files worked well and gave me an even better impression of the high quality work of Stone et al.”**

## What next?

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- **Aiming to publish at least 60 articles by December 2000**
- **Maintain the high visibility and high number of web accesses and downloads**
- **Continue to encourage authors to use the full potential of the Journal and include multimedia etc.**
- **Invoice authors - in progress**

## Reaction

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- **Reaction from readers.**

“I got through... and quite liked the presentation of the online journal. I also hope that in the course of time more use of coloured and animated figures and hypertext will be made by the authors. ...the new possibilities of an online journal are certainly tempting. I offer my services as a referee, in case you should need them!”

“A free journal - excellent news!”

And finally ...

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- Please visit [njp.org](http://njp.org) and see for yourself
- Thank you for listening
- [robert.brown@iopublishing.co.uk](mailto:robert.brown@iopublishing.co.uk)