

Writing Effective Titles

PHYSICAL REVIEW LETTERS

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Articles published 10 January–16 January 2004

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You'll need effective titles for all sorts of things, not just journal articles

Internal reports to bosses

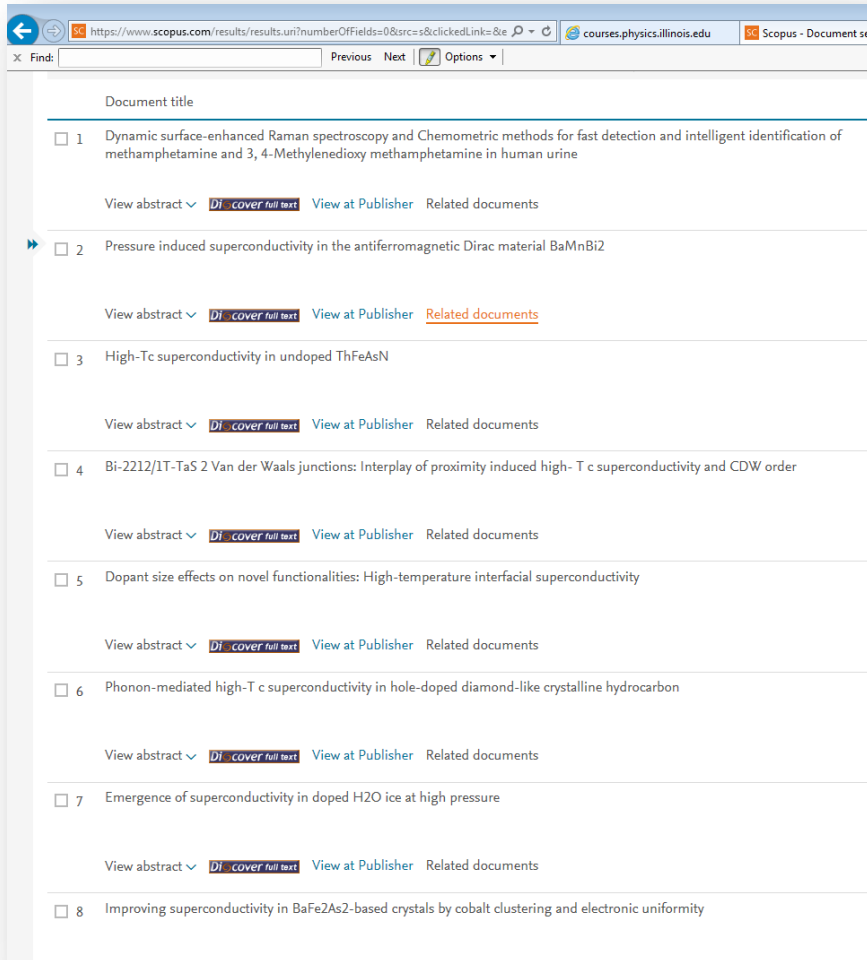
Technical reports to customers

Proposals to customers and funding agencies

Talks

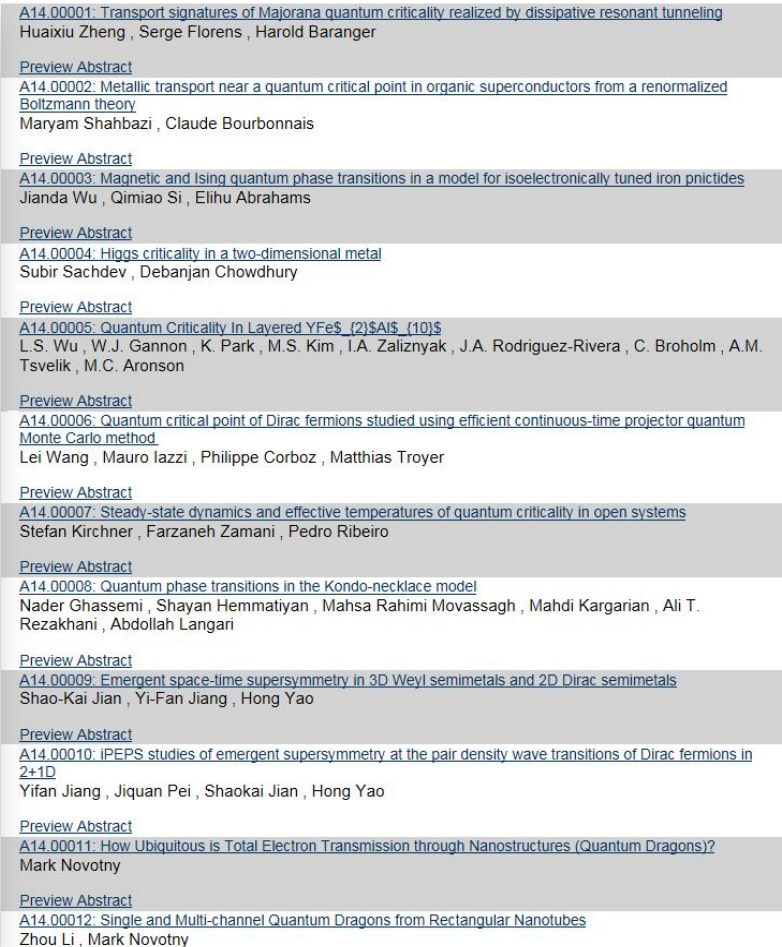
Websites and electronic media

How do you decide which article to read, or which talk to go to?



Document title

- ☐ 1 Dynamic surface-enhanced Raman spectroscopy and Chemometric methods for fast detection and intelligent identification of methamphetamine and 3, 4-Methylenedioxy methamphetamine in human urine
View abstract [Full text](#) View at Publisher Related documents
- ☒ 2 Pressure induced superconductivity in the antiferromagnetic Dirac material BaMnBi₂
View abstract [Full text](#) View at Publisher [Related documents](#)
- ☐ 3 High-T_c superconductivity in undoped ThFeAsN
View abstract [Full text](#) View at Publisher Related documents
- ☐ 4 Bi-2212/1T-TaS₂ Van der Waals junctions: Interplay of proximity induced high- T_c superconductivity and CDW order
View abstract [Full text](#) View at Publisher Related documents
- ☐ 5 Dopant size effects on novel functionalities: High-temperature interfacial superconductivity
View abstract [Full text](#) View at Publisher Related documents
- ☐ 6 Phonon-mediated high-T_c superconductivity in hole-doped diamond-like crystalline hydrocarbon
View abstract [Full text](#) View at Publisher Related documents
- ☐ 7 Emergence of superconductivity in doped H₂O ice at high pressure
View abstract [Full text](#) View at Publisher Related documents
- ☐ 8 Improving superconductivity in BaFe₂As₂-based crystals by cobalt clustering and electronic uniformity



A14.00001: Transport signatures of Majorana quantum criticality realized by dissipative resonant tunneling
Huaixiu Zheng , Serge Florens , Harold Baranger
[Preview Abstract](#)

A14.00002: Metallic transport near a quantum critical point in organic superconductors from a renormalized Boltzmann theory
Maryam Shahbazi , Claude Bourbonnais
[Preview Abstract](#)

A14.00003: Magnetic and Ising quantum phase transitions in a model for isoelectronically tuned iron pnictides
Jianda Wu , Qimiao Si , Elihu Abrahams
[Preview Abstract](#)

A14.00004: Higgs criticality in a two-dimensional metal
Subir Sachdev , Debanjan Chowdhury
[Preview Abstract](#)

A14.00005: Quantum Criticality in Layered YFe₂(Si)₁₀
L.S. Wu , W.J. Gannon , K. Park , M.S. Kim , I.A. Zaliznyak , J.A. Rodriguez-Rivera , C. Broholm , A.M. Tsvetik , M.C. Aronson
[Preview Abstract](#)

A14.00006: Quantum critical point of Dirac fermions studied using efficient continuous-time projector quantum Monte Carlo method
Lei Wang , Mauro Iazzi , Philippe Corboz , Matthias Troyer
[Preview Abstract](#)

A14.00007: Steady-state dynamics and effective temperatures of quantum criticality in open systems
Stefan Kirchner , Farzaneh Zamani , Pedro Ribeiro
[Preview Abstract](#)

A14.00008: Quantum phase transitions in the Kondo-necklace model
Nader Ghassemi , Shayan Hemmatian , Mahsa Rahimi Movassagh , Mahdi Kargarian , Ali T. Rezakhani , Abdollah Langari
[Preview Abstract](#)

A14.00009: Emergent space-time supersymmetry in 3D Weyl semimetals and 2D Dirac semimetals
Shao-Kai Jian , Yi-Fan Jiang , Hong Yao
[Preview Abstract](#)

A14.00010: IPEPS studies of emergent supersymmetry at the pair density wave transitions of Dirac fermions in 2+1D
Yifan Jiang , Jiquan Pei , Shaokai Jian , Hong Yao
[Preview Abstract](#)

A14.00011: How Ubiquitous is Total Electron Transmission through Nanostructures (Quantum Dragons)?
Mark Novotny
[Preview Abstract](#)

A14.00012: Single and Multi-channel Quantum Dragons from Rectangular Nanotubes
Zhou Li , Mark Novotny

You usually make a snap judgment based on the title...

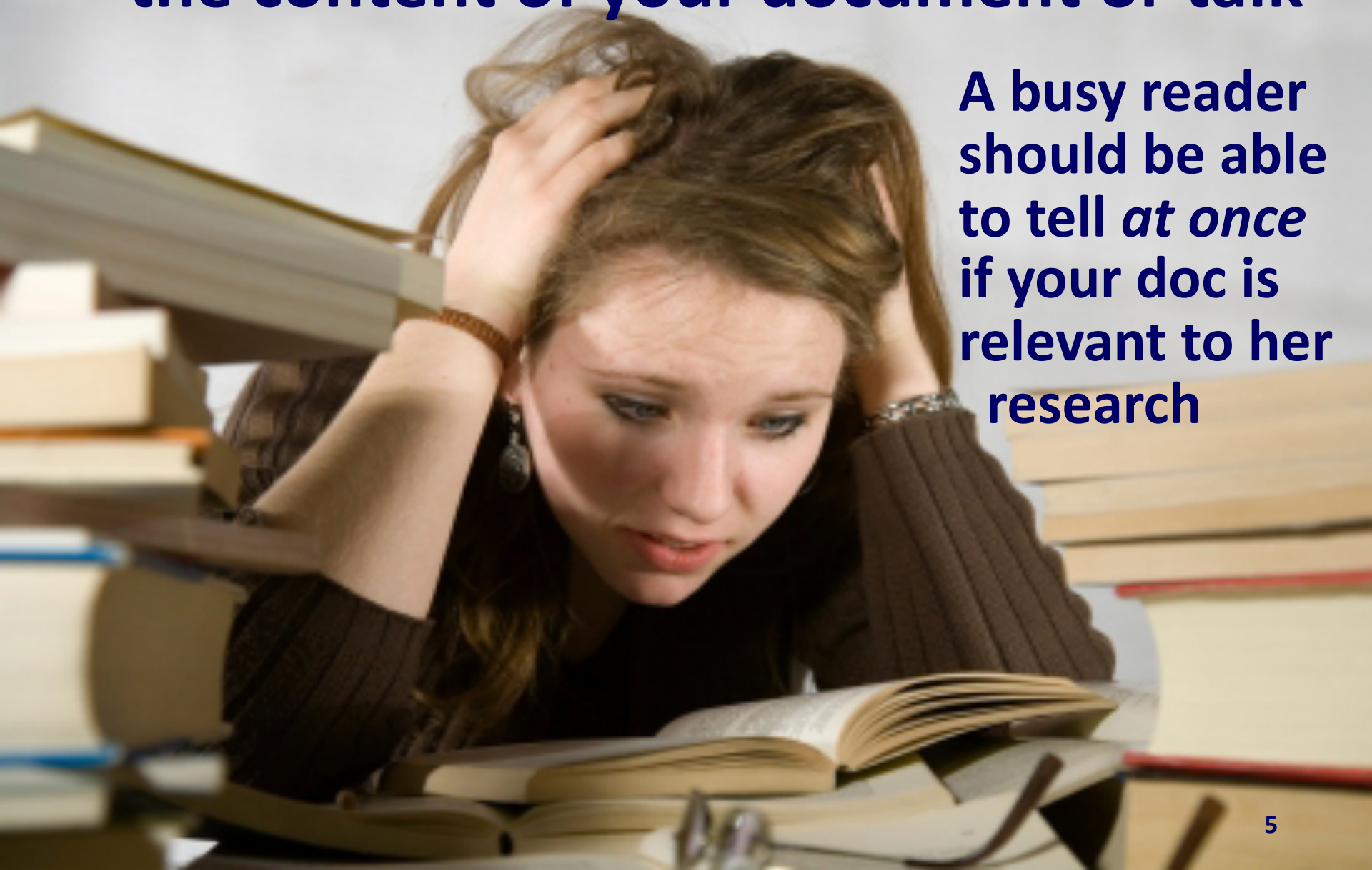
The title is the first hook to your prospective audience...



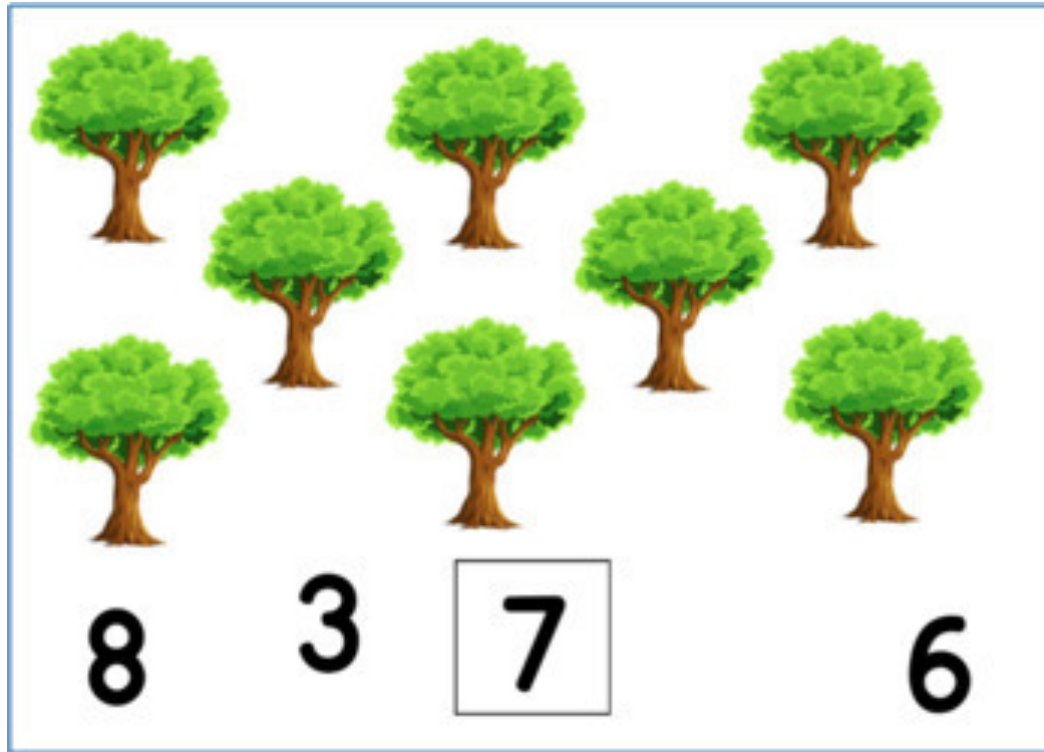
...make it count!₄

Your title should define and describe the content of your document or talk

A busy reader should be able to tell *at once* if your doc is relevant to her research



Useless title: “How to count trees?”*



*I am not making this up—*Int J Mod Phys C*16, 1527–1534 (2005).

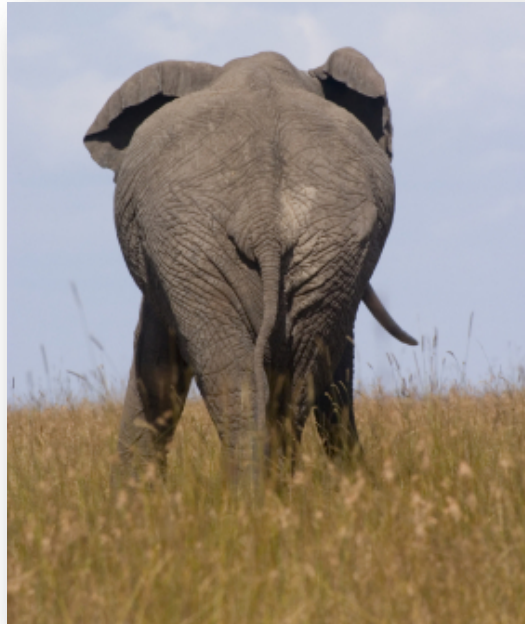
Play fair with your title



**Don't trick
the reader**

**Make it interesting, but not
*too interesting...***

**“Looking from the East at an Elephant Trotting
West: Direct CP Violation in B^0 Decays”**



I am not making this up either—<http://arxiv.org/abs/hep-ph/0203157>

Keep titles as short as possible



**<12 words;
<10 is even better***

***That's about the number of words a reader can take in and process as they are scanning down a list**

Your prospective reader is not going to remember more than that many words anyway

Help your poor reader; put keywords first



Original Title: Application of the time-dependent local density approximation to conjugated molecules (11 words)

My edit: *Time-dependent local density approximation for conjugated molecules* (8 words)

Original Title: A novel approach to estimate the stability of one-dimensional quantum inverse scattering (13 words)

My edit: *New stability estimate for 1D quantum inverse scattering* (8 words)

No introductory fluff

~~On the nature of the~~ “hostless” short GRBs

~~Capabilities of~~ parallel analyses of the structure of materials by field ion and scanning probe microscopy

~~Unveiling the~~ impurity band induced ferromagnetism in the magnetic semiconductor (Ga,Mn)As



“Frontload” key words; get them on the left side of the list to grab a reader’s attention

No introductory fluff

~~On the nature of the~~ “hostless” short GRBs
“Hostless” short gamma ray bursts

~~Capabilities of~~ parallel analyses of the
structure of materials by field ion and
scanning probe microscopy (14 words)

**Field ion vs scanning probe microscopy
for materials characterization** (9 words)

~~Unveiling the~~ impurity band induced
ferromagnetism in the magnetic
semiconductor (Ga,Mn)As (11 words)

**Impurity-band-induced ferromagnetism
in (Ga,Mn)As** (6 words)



Do not use qualitative words



“novel” “interesting” “important”

(that’s up to the reader to decide)

**Do not use the names of people*,
places*, coined words, equations**



***unless it's standard nomenclature,
e.g., Lorentz force, quantum Hall effect,
de Broglie wavelength**



No unfamiliar acronyms

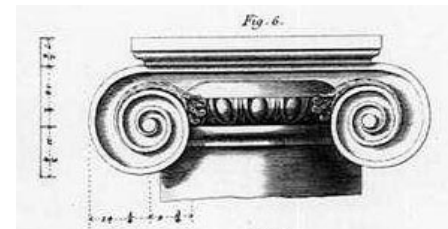
Original Title: One-dimensional SPH method

**My edit: Smoothed-particle hydrodynamics 1D method
for gas dynamics applications**

**Original Title: Application of CVS filtering to mixing in
two-dimensional homogeneous turbulence**

**My edit: Coherent-vortex-simulation filtering for 2D
homogeneous turbulence**

How do I decide what words to capitalize in a title?*



Some journals use “title” capitalization and some use “sentence” capitalization

Physical Review Letters

“Complexity of Small Silicon Self-Interstitial Defects”

Physical Review B

“Electronic excitations on silver surfaces”

Science

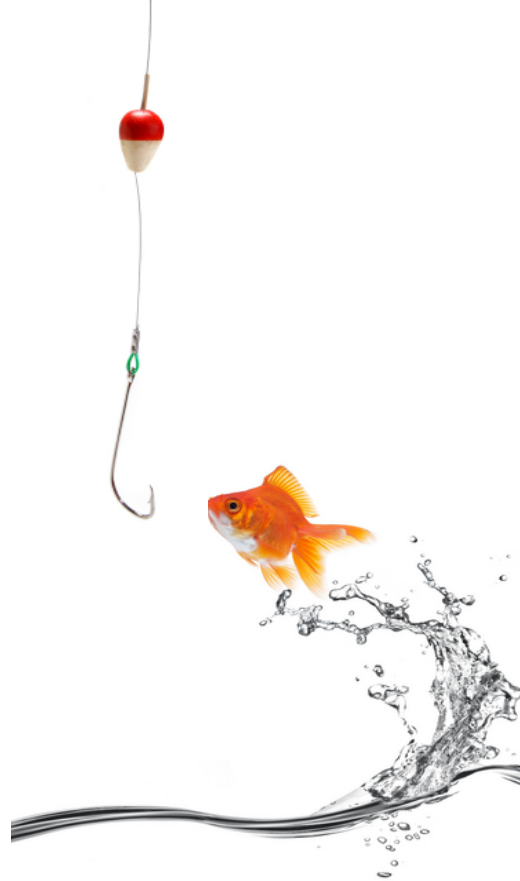
“Evidence for 2D Ising superconductivity in gated MoS₂”

Always capitalize the names of proper nouns, even when using sentence capitalization

“Classification of gapless $\mathbb{Z}_2$ spin liquids in 3D Kitaev models”

***Just look it up...**

**Now for some
practice:**



**Remember: A good title is
concise, descriptive, interesting**

**“Investigation of accumulation, evolution,
and penetration of gaseous products
produced by nuclear fission reactions”**

Behavior of gaseous nuclear-fission products

“An Overall Picture of the Gas Flow in Massive Cluster Forming Region: The Case of G10.6-0.4”

Gas Flow in Massive Cluster-Forming Region G10.6-0.4

As a matter of principle, I don't like colon-ated titles; they are often just an excuse for a run-on title—*cme*



“Pair contact process with diffusion of pairs”

“Pair contact process with diffusion of pairs”

Socks and washing machines?



“Optimization of the Neutrino Factory, ~~revisited~~”

**Knowing what kind of “optimization”
would be nice, too**

“A note on the implications of gauge invariance in QCD”

~~**“A note on the implications of gauge invariance in QCD”**~~

**“Unique nature of the lowest Landau level
in finite graphene samples with zigzag
edges: Dirac electrons with mixed bulk-
edge character”**



Hinchliffe's rule for titles:



IS HINCHLIFFE'S RULE TRUE? ·

Boris Peon

**We'll talk about
abstracts next week**

Abstract

Hinchliffe has asserted that whenever the title of a paper is a question with a yes/no answer, the answer is always no. This paper demonstrates that Hinchliffe's assertion is false, but only if it is true.

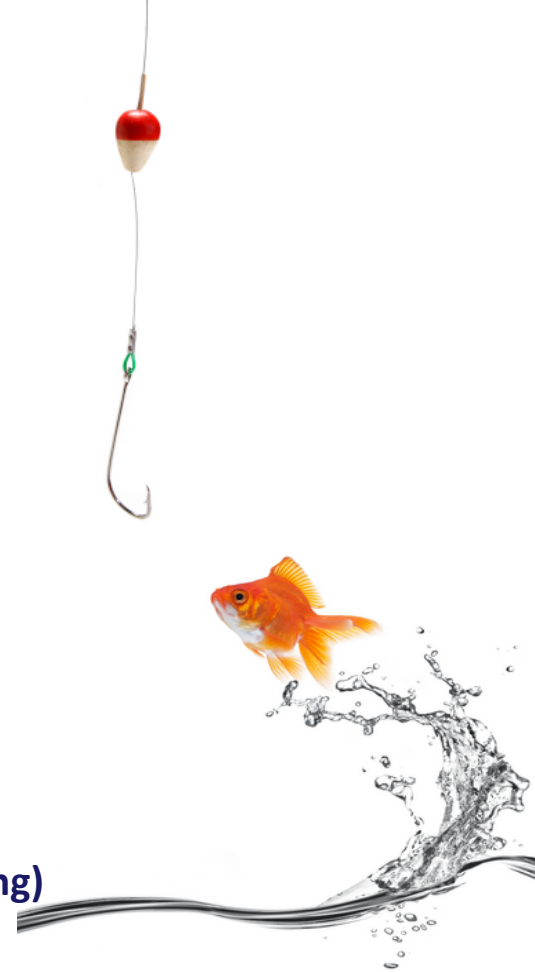
To recap:

Keep it short

Frontload key words

Provide specific information

Make it interesting (but not too interesting)



cmelliot@illinois.edu
<http://physics.illinois.edu/people/Celia/>