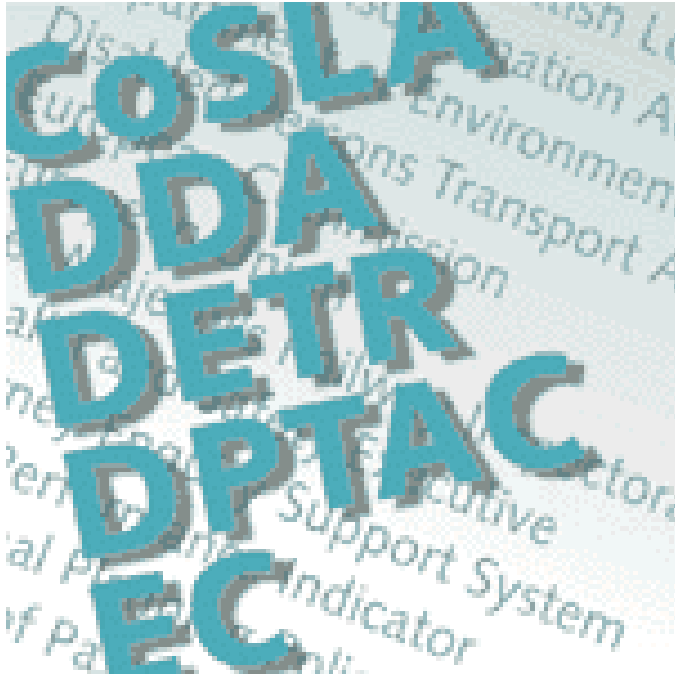


Acronyms, Initialisms, and Abbreviations in Science Writing



Celia M. Elliott
Department of Physics
University of Illinois
cmelliot@uiuc.edu

“In this class, we use a lot of three-letter acronyms, or TLAs.”

—Dale Van Harlingen

Which is which?

Abbreviation—shortened form of word

average = av const = constant

usually written lower case and without
a terminal period (.)

Acronym—pronounced as a word

NASA, MOSFET, LIGO

Initialism—pronounced letter-by-letter

STM, QCD, CMB



Define acronyms and initialisms (A&Is) at their first use

Spell out the words first, followed by the acronym in parentheses ()

Cosmic Background Imager (CBI)

density functional theory (DFT)

The AIP lists common physics acronyms that need not be defined

BCS

emf

NMR

dc



A sentence may NOT begin with an acronym or initialism, even if it has been previously defined

To image the surface of thin films of a superconducting crystal, the group uses a low-temperature scanning tunneling microscope (STM) that they built at Illinois.

~~STM~~ topographic images are correlated with X-ray crystallographic data.



Capitalize most A&Is

Some common A&Is are not capitalized
(see AIP)

rpm (revolutions per minute)

ac (alternating current)

rf (radio frequency)

The spelled-out words are not
capitalized, unless they constitute a
proper name

magnetohydrodynamics (MHD)

atomic force microscope (AFM)

National Academy of Sciences (NAS)

Bose–Einstein condensate (BEC)



The use of periods (.) in abbreviations is evolving

American usage is to put periods after one-word abbreviations (Dr., Ms.) but not after multi-word abbreviations (APS, NIH)

British usage is just the opposite (Dr, Ms, I.U.P.A.P., N.I.H.)

Chicago Manual of Style and CBE now recommend no periods anywhere



Plurals don't require apostrophes

Do not use an apostrophe to make an acronym or abbreviation plural

AFMs

CD-ROMs

PMTs

While I'm on the subject, don't use an apostrophe to make numbers greater than 9 plural, either

expressed in 100s

Boeing 767s



**Select an article (a or an) by the
sound of the acronym it precedes**

**Begins with a vowel *sound* → *an*
an STM**

**Begins with a consonant *sound* → *a*
a SQUID
a USDA-approved pesticide**

**What about Si (???)
a Si substrate
an SiO₂ substrate**

