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Preparing Your Manuscript

Acceptable file formats

Please use **Microsoft Word®** or **REVTeX 4.1**.

Microsoft Word®

Meticulous attention to the following brief guidelines will help the author and ensure prompt error-free publications that precisely reflect the author's intent.

- **Equations** need to be editable so we recommend that you create them with the built-in Microsoft® Equation Editor included with your version of Word. If you wish to use Mathtype, check for compatibility at <http://tinyurl.com/lzny753>.
 - Users of the Windows version of Word: Please embed all fonts.
 - Users of Macintosh Word: Please save all files in DOCX format, as the use of DOC is not supported. Additionally, because font embedding is not possible, Mac Word users should limit their font selection to those available from the basic installation.
- **Tables** should be created with Word's *Insert Table* function. If the table has already been made, please be sure it has been made with Word's Table features. Tables created with spaces or tabs will create problems and may be improperly typeset. To assure your table is published as you wish, you must use Word's Table function.
- **Footnotes** should be inserted using Word's *Insert Footnote* command.

REVTeX

The [REVTeX 4.1 package](#) has been updated with changes for AIP Publishing journals and is available for download.

The AIP Publishing Style will only work with REVTeX 4.1 and the latest version of natbib, natbib8.3.

We are now accepting BibTeX files. For more information please click [here](#).

English-language editing

AIP Publishing recommends that authors contact [Edanz](#), a global editing service with offices in Japan and China, to receive a quote of price and time. Note that this is not a requirement or a guarantee of acceptance for publication.

Manuscript guidelines

These are the general guidelines for the AIP Publishing journals. However, in addition to these

guidelines if you are preparing a manuscript for AIP Adv: MMM, APL, APM, APP, BMF, CHA, JCP, JPCRD, PHF, PHP, RSI, or SDY there are specific requirements which only apply to each particular journal. Therefore, it is important to also read the section, [specific journal guidelines](#) after reading these general guidelines.

- The **manuscript**, including the abstract, references, and captions, should be set up on a 21.6 x 28 cm (8-1/2 x 11 in. or A4) grid with ample margins. It is essential that the motivation for the research presented, central results, and conclusion be stated in nontechnical language that is intelligible to a broad audience. The manuscript must be in good scientific American English. All pages need to be numbered consecutively.
- The **manuscript should be arranged** in the following order: title, author(s), affiliation(s), abstract, text, acknowledgments, appendixes, and references. Figures, with figure captions, may be embedded within the manuscript to assist the reviewers. In addition, please submit separate figure source files.
- **Series publications** should be submitted in sequential order (Part I or I, Part II or II, etc.) and properly identified in the references. For series publication of closely related papers, the descriptor “Part I,” or simply “I,” will not be included in the title of an article unless Part II has been submitted for publication in the journal.
- The **abstract** should serve as an index (including all subjects, major and minor, about which new information is given) and as a summary (presenting the conclusions and all results of general interest in the article). It should be one paragraph with approximately 250 words. The abstract should not contain displayed mathematical equations, footnotes, references, graphics, or tabular material.
- **Authors’ names** should be presented consistently across all publications to facilitate indexing and avoid ambiguity.

You may choose to have your **Chinese, Japanese, or Korean names** published in your own language alongside the English versions in the author list. For Chinese, you may use either Simplified or Traditional characters. Chinese, Japanese, or Korean characters must appear within the author list of the manuscript when you are submitting and resubmitting the article. For further information, please read [Guidelines for Chinese, Japanese, or Korean names](#).

Equations should be punctuated and aligned to bring out their structure and numbered on the right. Mathematical operation signs indicating continuity of the expression should be placed at the left of the second and succeeding lines. Use “ \times ” rather than a centered dot, except for scalar products of vectors. The solidus (/) should be used instead of built-up fractions in running text, and in display wherever clarity would not be jeopardized. Use “exp” for complicated exponents

Notation must be legible, clear, compact, and consistent with standard usage.

Footnotes to the title should be set as a “Note” above the byline footnotes. For footnotes to the bylines, use a), b), c), etc. Avoid textual footnotes by inserting the information in the text. Footnotes within tables should be designated by lowercase roman letter superscripts and given at the end of the table.

References should be set as a double-spaced list at the end of the text. The names, including initials, of all authors in each reference should be given (in the text, the use of et al. is permitted). For footnotes to the title and bylines, use a), b), c), etc. Avoid lengthy textual footnotes by inserting the information in the text. Footnotes within tables should be designated by lowercase roman letter superscripts and given at the end of the table. All references to books and journal articles, listed at the end of the paper, are to appear in only one of these three formats:

- **By number**, in order of first appearance, presenting the names of the authors, the journal name, volume, first page number only, and year, as in:
¹⁹L. M. Pecora, T. L. Carroll, G. A. Johnson, D.J. Mar, and J. F. Heagy, Chaos **7**, 520 (1997).
 This paper will be listed as the 19th in the list of references and cited as 19 or Ref. 19.
- In **alphabetical order** according to the first author’s last name, also including the title of the paper cited, journal name, volume, first and last page, and year, as in:
 Pecora, L. M., Carroll, T. L., Johnson, G. A., Mar, D. J., and Heagy, J. F., “Fundamentals of synchronization in chaotic systems, concepts, and applications,” Chaos **7**, 520–543 (1997).
 This paper will be cited as “Pecora et al. (1997).” If there are several papers by the same author(s) and the same year, they should be distinguished by letters, as in (1997a).
- Alphabetically listed references (with full titles and page ranges) may be numbered according to their alphabetical order and cited by their number.
- Separate **tables** (numbered with roman numerals in the order of appearance in the text) should be used for all but the simplest tabular material; they should have captions that make the tables intelligible without reference to the text. The structure should be clear, with simple column headings denoting all units. Unaltered computer output and notation are generally unacceptable.

Guidelines for specific journals

AIP Advances: MMM Articles

Manuscript Length for “Contributed” MMM Articles (3500 words)

Contributed MMM Manuscripts should not exceed 3500 words. Please note that the abstract, title, author list, references and acknowledgments are all excluded from the 3500-word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy.

Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 file](#). If the version of the manuscript obtained using the “reprint” option fits on four pages, the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** 400 words for an average figure.
- **Tables:** 13 words per line, plus 26 words.
- **Equations:** 13 words per line.

If the total number of words (text + figures + tables + equations) is 3500 or less, the length is acceptable.

Manuscript Length for “Invited” MMM Articles (6000 words)

Invited MMM Manuscripts should not exceed 6000 words. Please note that the abstract, title, author list, references, and acknowledgments are all excluded from the 6000-word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy.

Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 file](#). If the version of the manuscript obtained using the “reprint” option fits on seven pages, the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** 400 words for an average figure.
- **Tables:** 13 words per line, plus 26 words.
- **Equations:** 13 words per line.

If the total number of words (text + figures + tables + equations) is 6000 or less, the length is acceptable.

Applied Physics Letters (APL)

Manuscript Length

Manuscripts should not exceed 3500 words (approximately four printed journal pages).

Please note that the abstract, title, author list, references and acknowledgments are all excluded from the 3500-word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy.

Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 APL style file](#). If the version of the manuscript obtained using the “reprint” option fits on four pages, the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgements and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** An average single-column figure will displace 200 words; an average double column figure will displace 400 words.
- **Tables:** 6.5 words per line, plus 13 words for single-column tables. 13 words per line, plus 26 words for double-column tables.

- **Equations:** 7 words per line for single-column equations. 13 words per line for double-column equations.

If the total number of words (text + figures + tables + equations) is 3500 or less, the length is acceptable.

Comments and Responses

A Comments section is available for criticism or additions to Letters already published. A Response will normally be solicited to a critical Comment. Comments and Responses should not exceed 1000 words.

APL Materials (APM)

Manuscript Length

Manuscripts should not exceed 3500 words (approximately four printed journal pages).

Please note that the abstract, title, author list, references and acknowledgments are all excluded from the 3500-word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy.

Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 APM style file](#). If the version of the manuscript obtained using the “reprint” option fits on four pages, the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgements and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** 400 words for an average figure.
- **Tables:** 13 words per line, plus 26 words.
- **Equations:** 32 words per line.

If the total number of words (text + figures + tables + equations) is 3500 or less, the length is acceptable.

Comments and Responses

A Comments section is available for criticism or additions to Letters already published. A Response will normally be solicited to a critical Comment. Comments and Responses should not exceed 1000 words.

Perspectives, Research Updates, and Commentaries

The word count for these article types should not exceed 5500 words. In these papers, please insert section headings to structure the content and guide the reader.

APL Photonics (APP)

Article Types and Manuscript Length Limits for APL Photonics

- **Regular Articles** (up to 8500 words, 10 pages, single column)
- **Letters** (up to 3500 words)
- **Comments and Responses** (up to 1000 words)
- **Invited Articles** (up to 8500 words)
- **Invited Tutorials** (up to 8500 words)

Please note that the abstract, title, author list, references, and acknowledgments are all excluded from the respective word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy.

Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 APP style file](#).

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references. Then note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** 400 words for an average figure.
- **Tables:** 13 words per line, plus 26 words.
- **Equations:** 13 words per line.

If the total number of words (text + figures + tables + equations) does not exceed the word counts listed above, the length is acceptable.

In manuscripts other than Letters and Comments, please insert section headings to structure the content and guide the reader.

***Biomicofluidics* (BMF)**

Fast Track Articles

BMF Fast Track articles replace Brief Communications to report on the most novel, high impact, cutting edge and technically significant developments in the field. Because of the urgency and scientific importance of the work, Fast Track articles have an accelerated review process. Fast Track articles will also receive prioritized consideration for the journal's Editor's Picks and AIP Publishing press releases.

For consideration as a Fast Track article, the manuscript must

- be highly original, reporting the most novel, significant, relevant and timely advances in the field,
- be of the highest scientific quality,
- be written in a clear and concise manner with no further need for technical/grammatical editing, and
- adhere to the length guidelines.
- Papers submitted to Fast Track will be initially screened for novelty and quality by the Editors and then reviewed by Editorial Advisory Board members, with a review response in under 14 days. Fast Track authors are requested to respond to reviews within 10 days.'

Fast Track Article Length

Fast Track Articles should not exceed 2000 words (approximately three printed journal pages). Please note that the abstract, title, author list, references, and acknowledgments are all excluded from the 2000-word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy. Note that the abstract itself should not exceed 100 words.

Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 BMF style file](#). If the version of the manuscript obtained using the "reprint" option fits on four pages, the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** 400 words for an average figure.
- **Tables:** 13 words per line, plus 26 words.
- **Equations:** 13 words per line.

If the total number of words (text + figures + tables + equations) is 2000 or less, the length is acceptable.

Supplementary Material (e.g., supporting information, multimedia, etc.) is accepted for Fast Track articles; however, it must not contain or discuss/interpret essential results, and must not be considered an extension of the manuscript. Failure to adhere to these guidelines may result in either delay in processing of the manuscript or rejection at initial screening. A Fast Track manuscript that is rejected at initial screening may be resubmitted as a ‘regular’ original-research paper.

Chaos (CHA)

Lead Paragraph

Please establish the first paragraph of the article as a **Lead Paragraph** containing the main points of the article in terms accessible to *nonspecialist readers*, and provide the “big picture”.

The Journal of Chemical Physics (JCP)

JCP Communications

These are preliminary reports of highly significant work whose rapid publication will be important to a relatively large number of workers in the field. Communications may be complete in themselves or may be followed by Articles, which present substantial additional significant information. Communications have a length limit of four journal pages.

Because of the length limitation, the standard of proof required to support the scientific argument is relaxed somewhat. Scientific arguments that are plausible and, if correct, important, may be presented in Communications even if the detailed proof must be presented in a later publication. Arguments that are implausible but can be demonstrated by lengthy and detailed proof to be correct should not be presented in Communications. Communications are given priority attention in both the peer-review and production processes.

As JCP Communications have a length limit of four journal pages, manuscripts should not exceed 3500 words. Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 JCP style file](#). The double-column version of the manuscript obtained using the “reprint” option will indicate whether the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** An average single-column figure will displace 200 words; an average double column figure will displace 400 words.
- **Tables:** 6.5 words per line, plus 13 words for single-column tables. 13 words per line, plus 26 words for double-column tables.
- **Equations:** 7 words per line for single-column equations. 13 words per line for double-column equations.

If the total number of words (text + figures + tables + equations) is 3500 or less, the length is acceptable.

Reports of new potential energy surfaces in JCP

Effective 04 August 2016, the Journal requires that all papers on new potential energy surfaces must be accompanied by a tape archive (e.g., PES.tar) file containing a computer program that can be used to generate the potential and preferably also its forces for use in classical trajectory calculations. The only exception will be potentials that are simple enough to be re-constructed SOLELY from the information given in the paper.

The computer program can be written in any modern computer language, but the compiler that the authors used (including its version number) must be specified, and the program must be accompanied by example input and output files that reproduce some of the key results presented in the paper. The PES.tar file will be made available to the referees to give them the option to examine it. If the manuscript is accepted for publication, the PES.tar file will be published as [supplementary material](#).

Journal of Physical and Chemical Reference Data (JPCRD)

Uncertainties

The objective of JPCRD is to provide critically evaluated physical and chemical property data, fully documented as to the original sources and the criteria used for evaluation. Such data are of little use without a quantitative characterization of uncertainties that includes effects of both random (precision) and systematic (bias) uncertainties, as well as a discussion of sources of errors and the rationale for assigning uncertainty estimates.

For a more detailed discussion of uncertainty analysis, we refer authors to:

U.S. Guide to the Expression of Uncertainty in Measurement, ANSI/NCSL Z540-2-1997, American National Standard for Expressing Uncertainty (National Conference of Standards Laboratories, Boulder, CO, 1997).

B. N. Taylor and C. E. Kuyatt, *Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results*, NIST Technical Note 1297 (NIST, Gaithersburg, MD, 1994).

Units, symbols, terminology, and chemical nomenclature

It is the policy of JPCRD to follow the recommendations of recognized international bodies such as ISO, IUPAC, and IUPAP unless there are strong grounds for making an exception. Sources of recommendations on symbols, terminology, and units are the following:

Quantities and Units, ISO Standards Handbook, 3rd ed. (International Organization for Standardization, Geneva, Switzerland, 1993).

Quantities, Units and Symbols in Physical Chemistry (the Green Book), 3rd ed. (IUPAC, RSC Publishing, Cambridge, 2007).

Symbols, Units and Nomenclature in Physics, IUPAP Document IUPAP 25, 1985. [Reproduced in *Physica A* 146, 1 (1987)].

A. Thompson and B. N. Taylor, [*Guide for the Use of the International System of Units \(SI\)*](#), NIST Special Pub. 811, 2008 edition (NIST, Gaithersburg, MD, 2008).

The International System of Units (SI) should always be employed unless the Editor has granted an exception. The nomenclature practices of Chemical Abstracts, or those based on the IUPAC recommendations, should be followed. If you are preparing compound indices for your paper, please consult the current CA Index Guide. It is desirable to include CAS Registry Numbers in papers that give data for multiple chemical compounds.

Please follow the conventions for using Roman and italic type. Roman (non-italic) type is always used for chemical formulas, units, numbers, mathematical constants and operators (π and \ln), and descriptive terms. Italics are used to denote variables, physical quantities, and functions.

The following are some examples of correct usage:

$T_{\min} = 273 \text{ K}$ (italicize physical quantity temperature, not descriptive “min” or unit “K”)

$$S(T) \sum_{i=1}^N a_i \exp\left(-\frac{E_i}{k_B T}\right)$$

(Do not italicize operator “exp” or subscript “B” for Boltzmann.)

Avoid the ambiguous term “log”; natural logarithms should be written “ln” (preferred) or “log_e” while base-10 logarithms should be written “lg” or “log₁₀”. Please use a minus sign (–) rather than a hyphen (-) to denote negative numbers or subtraction. Superscripts or subscripts should be formatted through the font group rather than raising or lowering the individual characters.

List of symbols

A **list of symbols** is optional. It is recommended to use a list of symbols if the paper contains many symbols, whose meaning is not obvious, especially if the paper is relatively long. Otherwise, symbols should be defined when they first appear in the text.

Headings and Subheadings

Headings and subheadings in the text should have a minimum of three levels and should be numbered as follows:

- 1. (Main level)
- 1.1. (Second level)
- 1.1.1. (Third level)

The first level is normally “1. Introduction” and the last is “References.” Refer to the sections in text as Sec. 1.1., etc., except at the beginning of a sentence where “Section 1.1.” should be used.

Physics of Fluids (PHF)

Letters

The purpose of the **Letters** section is to provide rapid dissemination of important and time-sensitive new results in the fields regularly covered by *Physics of Fluids*, in the form of a condensed communication. Results of extended research should not be presented as a series of Letters in place of comprehensive articles. Except for length, Letters manuscripts are governed by the same criteria as for longer articles. **However, ordinarily there is a three-month time limit, from date of receipt to acceptance, for processing Letters manuscripts.**

Timeliness, current importance of the subject matter, and brevity and clarity of presentation determine the acceptability of contributions. Feasibility studies and proposals for future research are not appropriate for the Letters section and seldom will be accepted.

When submitting a manuscript, you must include a brief statement justifying its rapid (and time-critical) publication in the Letters section. Each Letter should be self-contained and may on occasion be followed by a comprehensive article in *Physics of Fluids* or elsewhere. Letters are limited to seven (7) printed pages in length, including space for title, figures, tables, references, and an abstract limited to 100 words; Letters **do not** have section headings.

Guidance is provided for page limitations if you use the L^AT_EX template. In 2012, *Physics of Fluids* had a format change. The “reprint” option has been changed to reflect the new format; single column, single spaced.

Please use these guidelines for estimating length of PoF Letters

TeX users

Authors are advised to use the REVTeX 4.1 PoF style file. If the version of the manuscript obtained using the “reprint” option fits on approximately seven pages (excluding abstract, title, author list, references, and acknowledgments), the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgements, and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** An average double-column figure will displace 400 words.
- **Tables:** 13 words per line, plus 26 words for double-column tables.
- **Equations:** 13 words per line for double-column equations.

If the total number of words (text + figures + tables + equations) is 5250 or less, the length is acceptable.

Reference List

Note that including the article title within all references on the list is preferred by the community. As such, we ask that you please style your references, as follows:

D. A. Lockerby, J. M. Reese, and M. A. Gallis, “The usefulness of higher-order constitutive relations for describing the Knudsen layer,” *Phys. Fluids* 17 (10), 100609 (2005).

Physics of Plasmas (PHP)

Manuscript Length for PHP Letters and Brief Communications

Manuscripts for Letters in *Physics of Plasmas*, as well as for Brief Communications, should not exceed 3500 words (approximately four printed journal pages). Please note that the abstract, title, author list, references, and acknowledgments are all excluded from the 3500-word limit. Figures, tables, and equations, however, are included and must be accounted for by calculating a word count equivalent to the space they occupy.

Please use these guidelines for estimating length of PHP Letters and Brief Communications.

TeX users

Authors are advised to use the [REVTeX 4.1 PHP style file](#). If the double-column version of the manuscript obtained using the “reprint” option fits on approximately four pages (excluding abstract, title, author list, references and acknowledgments), the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** An average single-column figure will displace 200 words. An average double-column figure will displace 400 words.
- **Tables:** 6.5 words per line, plus 13 words for single-column tables. 13 words per line, plus 26 words for double-column tables
- **Equations:** 7 words per line for single-column equations. 13 words per line for double-column equations.

If the total number of words (text + figures + tables + equations) is 3500 or less, the length is acceptable.

Physics of Plasmas Data Project

AIP Publishing and *Physics of Plasmas* has partnered with [Zenodo](#) to help you create links to share the datasets underlying your figures and tables. For more details on this initiative, please refer to the following:

- [Editorial Policy on the Data Accessibility](#)
- [PXP Submission instructions](#)
- [FAQs](#)

When uploading your datasets to Zenodo, be sure to write down the complete digital object identifier (doi) for each upload to include in the citations of your dataset in your paper. For each dataset you share, please include the citation (1) in the figure caption and/or table caption and (2) as a separate reference on the reference list. See the examples below for guidance. Note that your article must be written so that the reader can understand it without accessing the dataset.

Citing a dataset in a figure caption:

FIG. 4. This is a usual figure caption in your manuscript. [Associated dataset available at <http://dx.doi.org/10.5281/zenodo.45520>] (Ref. 5).

Citing a dataset as a “Note” in a table caption:

2.0	362	11.25	4.28	71.61
3.0	1033	10.23	4.23	48.67

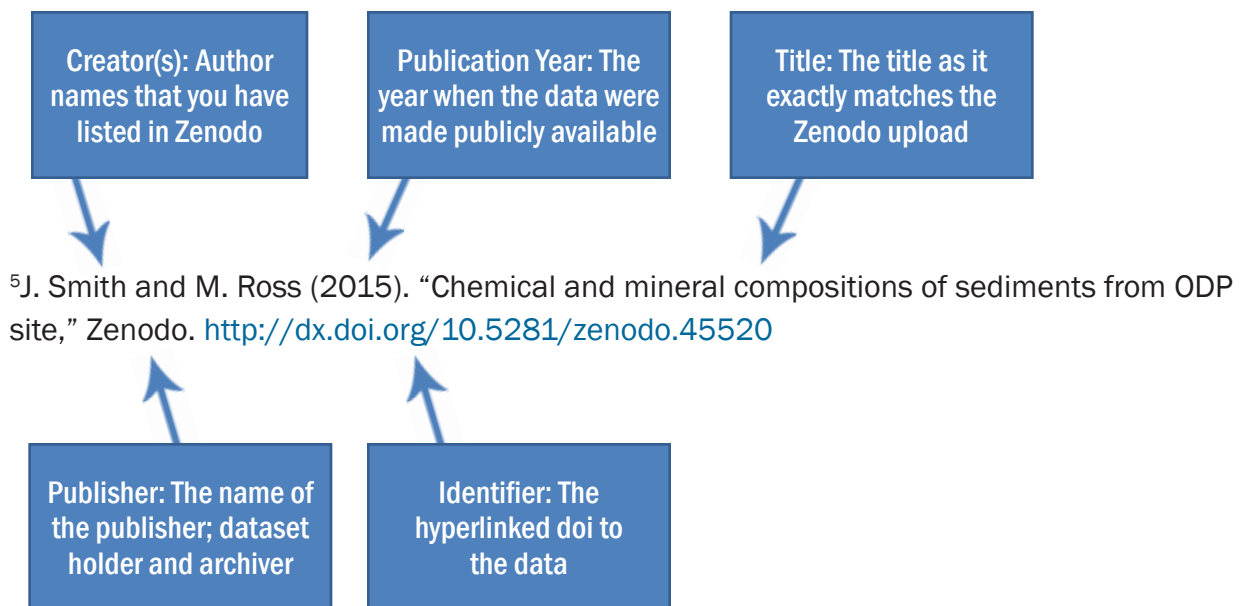
Note: Associated dataset available at <http://dx.doi.org/10.5281/zenodo.45520> (Ref. 5).

Citing a dataset on the reference list:

Required elements: Creator(s), Publication Year, Title, Publisher, and Identifier

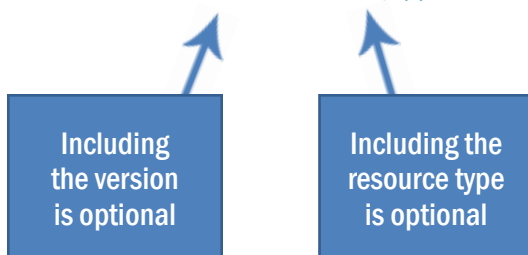
Optional elements: Version and Resource Type

Example of reference with required elements:



Example of reference with required elements and optional elements of version and resource type:

⁵J. Smith and M. Ross (2015). “Chemical and mineral compositions of sediments from ODP site,” Zenodo, V. 2.1, Dataset. [http://dx.doi.org/10.5281/zenodo.45520](\"http://dx.doi.org/10.5281/zenodo.45520\")



Review of Scientific Instruments (RSI)

Invited Review Articles, Invited Articles and Invited Tutorials

Invited Review Articles, Invited Articles and Invited Tutorials are published by invitation only. If you are contacted about an Invited article, please consult with the Editor on proposed subject material.

Articles and Notes

Three types of manuscripts on original material are acceptable: **Reviews**, **Articles** (full length) and **Notes**. The latter are short contributions limited to three (3) printed pages (not generally exceeding in length eight double-spaced manuscript pages or six printed columns, including illustrations, references, and tables). Abstracts are required for both types of manuscript. Comments on previously published articles or other subjects of importance in instrumentation may be submitted as **Letters to the Editor**.

Headings in RSI Papers

Please insert section headings to structure the content and guide the reader.

Structural Dynamics (SDY)

Short Communications

As Short Communications have a length limit of four journal pages, manuscripts should not exceed 3500 words. Please use these guidelines for estimating length.

TeX users

Authors are advised to use the [REVTeX 4.1 SDY style file](#). If the version of the manuscript obtained using the “reprint” option fits on four pages, the length is acceptable.

Word users

Highlight the manuscript text, excluding abstract, author list, acknowledgments and references, and note the word count at the bottom of the screen. Add to that the word-count-equivalents for figures, tables and equations as follows:

- **Figures:** 400 words for an average figure.
- **Tables:** 13 words per line, plus 26 words for double-column tables.
- **Equations:** 13 words per line.

If the total number of words (text + figures + tables + equations) is 3500 or less, the length is acceptable.

Reference List

Note that including the article title within all references on the list is preferred by the community. As such, we ask that you please style your references, as follows:

D. A. Lockerby, J. M. Reese, and M. A. Gallis, “The usefulness of higher-order constitutive relations for describing the Knudsen layer,” *Phys. Fluids* 17 (10), 100609 (2005).

Guidelines for Chinese, Japanese and Korean names

Authors may insert the respective characters so their names will also be displayed in Chinese, Japanese or Korean by following the instructions below. Authors should proof the PDF of the manuscript as produced by the Peer X-Press system on first submission to ensure that the manuscript files have been processed correctly. In addition, it is essential that authors check carefully any production proofs received prior to the publication of the paper.

Fonts

The following font styles will be used when typesetting Chinese, Japanese, or Korean characters in the final publication:

- **Simplified Chinese:** SongMT
- **Traditional Chinese:** SungMT
- **Japanese:** MS Mincho
- **Korean:** Batang

Preparing for submission

Microsoft Word

If you are submitting in Microsoft Word, simply add the characters in parentheses after the name of each author who would like their name shown in their own language. To avoid potential problems, please use standard the Microsoft fonts for the characters.

TeX Submissions

If you use TeX to prepare your manuscript, you will need to use REVTeX 4 and the CJK language package for LaTeX. Installing the CJK package can be quite difficult so it is best to use a TeX distribution (such as [TeXLive](#)) that has it pre-installed.

Once the CJK package is properly installed, you will need to use the package to select an encoding and a font to use. The CJK markup should be as follows:

- Put `\usepackage{CJK}` after the `\documentclass` line

- `\begin{CJK*}{<Encoding>}{<fontfamily>}` after the `\begin{document}` line
- `\end{CJK*}` after the `\maketitle` line.

For example:

```
\documentclass{line} {revtex4}

\usepackage{CJK}

....

\begin{document}

\begin{CJK*}{GB}{} % Use default fonts from CJK (see below)

\title{Title of Paper}

\author{Your Name (characters)}

\affiliation{Your affiliation}

...

\maketitle

\end{CJK*}
```

The following encodings from the CJK package are supported:

- **Chinese:** GB, Big5, GBK, and UTF 8
- **Japanese:** JIS, SJIS (Shift-JIS), and UTF 8
- **Korean:** KS and UTF8

Because the Big5 and Shift-JIS encodings use some reserved TeX characters, care must be taken to process files using these encodings (see the CJK package documentation). Files may be prepared using any of the fonts found in the CJK installation as well as the Cyberbit font for UTF 8 encodings. Please select one of the standard fonts from the distribution. Because CJK installations can vary by how the fonts are actually named and installed, it is safest to leave the font family argument empty and let the TeX installation use its default font for that encoding:

```
\begin{CJK*}{<Encoding>}{}
```

Please be sure to check the PDF produced by the submission software to ensure that the Chinese, Japanese, or Korean characters were processed correctly. Note that if you are using UTF-8, you may need to use the `\CJKfamily` macro when processing the file on your local machine. If using TeXLive and UTF8 as the input encoding, one of the following `\CJKfamily` macros should be inserted right before the CJK name:

- for **simplified Chinese**: `\CJKfamily{gbsn}`
- for **traditional Chinese**: `\CJKfamily{bsmi}`
- for **Japanese**: `\CJKfamily{min}`
- for **Korean**: `\CJKfamily{mj}`

It's possible to call `\CJKfamily` more than once in case this should be necessary (for example, to properly insert a Japanese name and then a Korean name). Before the final submission, all `\CJKfamily` macro calls should be commented out.

Preparing Graphics

Guidelines

- If you embed figures in place in your article-text file, you will be asked to **upload individual figure** files should your paper be accepted for publication.
- **Number figures in the order in which they appear in text.**
- **Identify all figure parts with (a), (b), etc.** Avoid any large size differences of the lettering and labels used within one illustration.
- **Submit illustrations in the size and resolution you wish them to appear in print.**
 - **For ADV, APM, APP, BMF, JRSE, and SDY (online-only journals)**
The maximum published width of figures is 5 3/8 inches (13.65 cm). The maximum depth of figures should be 8 1/4 in. (21.1 cm). Legends or labels within figures should be a minimum of 8-point type size (2.8 mm high; 1/8 in. high). A minimum of 0.5 point width for lines.
 - **For JMP and PHF (one-column journals)**
The maximum published width of figures is 6.69 inches (17 cm).
 - **For APL, APR, CHA, JAP, JCP, JPCRD, PHP, and RSI**
The maximum published width for a one-column figure is 3.37 inches (8.5 cm). The

maximum width for a two-column figure is 6.69 inches (17 cm). Each illustration should be prepared for 100% reproduction in order to avoid problems arising from large reductions in size.

- **Ensure that lettering and lines are dark enough and thick enough to reproduce clearly**, especially if reduction is necessary. Remember that fine lines tend to disappear upon reduction.
- Color online only (RGB) is a free service; Color in Print (CMYK) may require fees (see [Color Printing Charges](#)).
- **IMPORTANT: All fonts must be embedded in your figure files.**

Electronic graphic formats

- **Use only these file formats: EPS (preferred format), PS, TIFF (.tif), PDF, JPEG (.jpg).** Application files (e.g., Corel Draw, Microsoft Word) are not acceptable.
- **Scalable vector formats (i.e. SVG, EPS and PS) are greatly preferred.** AIP Publishing suggests the use of [Adobe Illustrator](#) (Paid, OS X, Windows) or [Inkscape](#) (Freeware, OS X, Windows, Linux) for the creation of acceptable illustrations and [Adobe Photoshop](#) (Paid, OS X, Windows) or [GIMP](#) (Freeware, OS X, Windows, Linux) for the editing of acceptable photographs.
- **Submit a single file** for each figure with figure parts; label each part (a), (b), etc.
- When submitting your manuscript, **include all illustrations and line art for your paper.**
- **Set the correct orientation for each graphics file.**
- Set the graphic for:
 - **Line art:** 600 dpi resolution and black/white bitmap, not grayscale.
 - **Halftones:** 264 dpi resolution and grayscale, not black/white bitmap.
 - **Combinations (line art + halftone):** 600 dpi and grayscale, not black/white bitmap.
 - **Color: 300 dpi TIFF, PS, or EPS format.** If selecting a file mode, use **CMYK** (cyan, magenta, yellow, black) for color figures in **print** or **RGB** (red, green, blue) for color figures **online only**.

Production-ready PDF graphics

For accepted manuscripts, PDF as the source file for illustrations **is not preferred**. However, properly prepared PDF illustration files may be used in the production process of your accepted manuscript if you follow these guidelines:

- PDF should be used as the source file for illustrations only when the preferred formats (PS, EPS, or TIFF) cannot be generated.
- In the PDF illustration, the resolution of any shaded or photographic images must be 600 pixels per inch (PPI).
- Within the PDF illustration, resolution of line art with no shading should be 1200 pixels per inch (PPI).
- All fonts must be embedded in the PDF.
- When creating a PDF through your application's print command, select "High Quality Print."

Color

Illustrations will appear in color in the online journal free of charge to authors. To take advantage of this free service, you must:

- supply color graphics files in the appropriate format (.eps, .ps, .tif, or .pdf only),
- submit graphics files in time for utilization during the production process,
- submit only one version of each graphics file,
- ensure that colors chosen will reproduce well when printed in black & white, and
- ensure that descriptions of figures in text will be sufficiently clear for both print and online versions.
- If you want color figures in the printed journal, you must request this at the time of submission.
- You or your institution must pay the required fee of \$325 per color figure. For multipart figures, a single charge will apply only if all parts are submitted as a single piece of artwork.
- For color in the **printed journal**, you will be required to sign an acknowledgment of color charges prior to publication of the article. Otherwise, the figures will appear in color only

online and in black & white in print.

Supporting Data

Supplementary Material

- Supplementary Material are files either to aid the reviewer or for publication alongside the manuscript. **Appropriate items** for publication as supplementary material include data tables and text (e.g., appendixes) that are **too lengthy or of too limited interest** for inclusion in the article. A URL link will be included in the published article to allow users to navigate directly to the associated files. Note that subdirectories (folders) are not acceptable. Name files appropriately, so that all files can reside at the root directory, allowing successful linking between the published paper and its associated supplementary material.
- All supplementary material for publication must be approved by the Journal Editor as part of a manuscript's normal review cycle, and must be noted in a section before the Acknowledgments, as shown in the example below. AIP Publishing will insert the link.

V. CONCLUSIONS

In summary, we performed a systematic study of the electronic properties of monolayer transition metal dichalcogenides as a function of strain. While some of these 2D materials have not been experimentally realized, their stability indicates no thermodynamic obstacles to their synthesis. The band alignment across the series shows significant flexibility in building heterostructures consisting of single-layers semiconducting materials of interest in a variety of applications. Our predictions indicate several options to create type-III, broken gap, heterostructures and that strain should be carefully considered in such designs.

SUPPLEMENTARY MATERIAL

See [supplementary material](#) for the complete electronic structure of the studied MX₂ monolayers.

ACKNOWLEDGMENTS

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¹K. Novoselov *et al.*, "Two-dimensional atomic crystals," *Proc. Natl. U.S.A.* **102**(30), 10451–10453 (2005).

- All supplementary material is posted online exactly as provided by the author. AIP Publishing makes no changes to the supplementary material files, including text editing or file conversion.

Multimedia

Multimedia files may be included in the online version of published papers. Multimedia consists of video, audio, and 3D rendering files. Readers can view these multimedia files by simply clicking on a link in the paper, provided the reader has a video player. In addition to the multimedia file, please upload a static figure to represent the multimedia file in the article. The static file and the multimedia file should be numbered the same. Please add “(Multimedia view)” after the figure citation in text and in the figure caption. There will be a link placed in the caption to bring the reader directly to the multimedia file.

- **Video:** Any file formats are acceptable up to 10MB. Please insert a representative “still” image, taken from the video, in the manuscript as a figure. Care should be taken to extract an image that has reasonable clarity of fine lines and details. Acceptable file formats for still images are JPEG (.jpg) and GIF (.gif).
- **Audio:** Acceptable file formats include PCM (.pcm), WAV (.wav), AIFF (.aif), and MP3 (.mp3) at 128 KB or greater.

Guidelines for preparing multimedia files:

- Keep file size between 3 MB and 5 MB so readers can download and view them.
- When incorporating multimedia, write the paper so that the print version, which does not contain multimedia functionality, can be understood on its own.
- Submit all multimedia source files initially with the manuscript.
- Treat all multimedia files as figures, numbered in sequence as they are referred to in text. (Multimedia files should not have a numbering scheme separate from the figures.)
- Please be sure to cite all multimedia files in the text, referred to by their figure number.

- For each multimedia file, provide a figure that is a static representation of the multimedia file. Also provide an accompanying caption. At the end of the caption, include the phrase “(Multimedia view).” The multimedia file will be linked to the static image online.
- Video and other enhanced files should be in a format that can be viewed without difficulty. See the acceptable file formats above for specific submission requirements.
- **Use of copyrighted material is not permitted.**
- Use media players to check file properties and image/sound quality prior to submission. For video submissions, fonts, lines, and image details should be of sufficient size and weight to be visible when played at half size.
- Please use one of the accepted compression codecs to minimize file sizes.
- Animations must be formatted into a standard video file.

Multimedia metadata

Please include information about your multimedia files. **A caption or description of the content of the media file is required** (similar to a typical figure caption). Additional metadata is also requested, but optional.

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- **Caption/description:** Textual caption/description of the content of the media object is required.
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- **Format:** This describes the media file type, such as QuickTime, DV, MPEG, PCM, or WAV (optional).

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- If the video is associated with a figure in the article (or a still of the video clip), and you would like the video to be accessed directly via a link that would appear in the figure caption, please indicate that the videos are intended as integral multimedia files when you submit your article. In this way, the reader would click on the hyperlink to the videos appearing in the figure caption and the video will then immediately begin. Note that the video will also appear under the Data & Media tab in the online article, as well as in the respective figure caption.
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