

# Simple template for authors submitting to OSA Express Journals

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**Abstract:** Detailed instructions and formatting guidelines for preparing *Optics Express*, *Biomedical Optics Express*, and *Optical Materials Express* manuscripts in L<sup>A</sup>T<sub>E</sub>X. For a simple outline and template, open the simple template file `OpEx_temp.txt`. The Express journal simple and extended templates are also available on <http://www.writelatex.com>. OSA encourages the use of this free online collaborative tool for writing your OSA article.

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**OCIS codes:** (000.0000) General.

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## References and links

1. P. J. Harshman, T. K. Gustafson, and P. Kelley, "Title of paper," J. Chem. Phys. **3**, (to be published).
2. K. Gallo and G. Assanto, "All-optical diode based on second-harmonic generation in an asymmetric waveguide," J. Opt. Soc. Am. B **16**(2), 267–269 (1999).
3. B. R. Masters, "Three-dimensional microscopic tomographic imagings of the cataract in a human lens in vivo," Opt. Express **3**(9), 332–338 (1998).
4. D. Yelin, D. Oron, S. Thiberge, E. Moses, and Y. Silberberg, "Multiphoton plasmon-resonance microscopy," Opt. Express **11**(12), 1385–1391 (2003).
5. B. N. Behnken, G. Karunasiri, D. R. Chamberlin, P. R. Robrish, and J. Faist, "Real-time imaging using a 2.8 THz quantum cascade laser and uncooled infrared microbolometer camera," Opt. Lett. **33**(5), 440–442 (2008).

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## 1. Introduction

Adherence to the specifications listed in this template is essential for efficient review and publication of submissions. Since OSA does not routinely perform copyediting and typesetting for this journal, use of the template is critical to providing a consistent appearance. Proper reference format is especially important (see Section 7).

## 2. `opex3.sty` and required L<sup>A</sup>T<sub>E</sub>X packages

Page layout is set with the `geometry` package for US Letter paper. `opex3.sty` uses the following package files:

- `geometry` (page layout)
- `color`, `graphicx` (replaces `graphics`; has preset options)
- `mathptmx`, `courier`, `helvet` (Times, Courier, and Helvetica fonts)

The latest versions of these standard package files can be obtained at CTAN: the Comprehensive TeX Archive Network, <http://www.ctan.org>.

The command `\usepackage{ae}` can be invoked to revert font to Computer Modern, although we prefer to publish with Times (with `mathptmx.sty`) for consistency.

### 3. Multiple corresponding authors

There are two options for indicating multiple corresponding authorship, and they are formatted quite differently. The first format would be as follows, still using the asterisk to denote one of the authors:

```
\author{Dan McDonald{1,3} and Theresa Miller{2,*}}

\address{{1}Peer Review, Publications Department,
Optical Society of America,\\ 2010 Massachusetts Avenue NW,
Washington, D.C., 20036, USA\\
{2}Publications Department, Optical Society of America,\\
2010 Massachusetts Avenue NW, Washington, D.C., 20036, USA\\
{3}dmdonold@osa.org}

\email{*opex@osa.org}
```

This format will generate the following appearance:

**Dan McDonald<sup>1,3</sup> and Theresa Miller<sup>2,\*</sup>**  
<sup>1</sup>*Peer Review, Publications Department, Optical Society of America,  
2010 Massachusetts Avenue NW, Washington, D.C., 20036, USA*  
<sup>2</sup>*Publications Department, Optical Society of America,  
2010 Massachusetts Avenue NW, Washington, D.C., 20036, USA*  
<sup>3</sup>*dmdonold@osa.org*  
<sup>\*</sup>*[opex@osa.org](mailto:opex@osa.org)*

The second format forgoes the asterisk and sets all email addresses equally within the affiliations. Please note that this format does not use the `\email{}` field at all.

```
\author{Dan McDonald{1,3} and Theresa Miller{2,4}}

\address{{1}Peer Review, Publications Department,
Optical Society of America,\\ 2010 Massachusetts Avenue NW,
Washington, D.C., 20036, USA\\
{2}Publications Department, Optical Society
of America,\\ 2010 Massachusetts Avenue NW,
Washington, D.C., 20036, USA\\
{3}dmdonold@osa.org\\
{4}opex.osa.org}
```

This format will generate the following appearance:

**Dan McDonald<sup>1,3</sup> and Theresa Miller<sup>2,4</sup>**  
<sup>1</sup>*Peer Review, Publications Department, Optical Society of America,  
2010 Massachusetts Avenue NW, Washington, D.C., 20036, USA*  
<sup>2</sup>*Publications Department, Optical Society of America,  
2010 Massachusetts Avenue NW, Washington, D.C., 20036, USA*  
<sup>3</sup>*dmdonold@osa.org*  
<sup>4</sup>*[opex.osa.org](mailto:opex.osa.org)*

These are the preferred express journal formats for multiple corresponding authorship, and either may be used.

#### **4. Abstract**

The abstract should be limited to approximately 100 words. It should be an explicit summary of the paper that states the problem, the methods used, and the major results and conclusions. It also should contain the relevant key words that would allow it to be found in a cursory computerized search. If the work of another author is cited in the abstract, that citation should be written out without a number, [e.g., author, journal, volume, first page, and year (T. Miller, Opt. Express **22**, 1234 (2014).)], and a separate citation should be included in the body of the text. The first reference cited in the main text must be [1]. Do not include numbers, bullets, or lists inside the abstract.

#### **5. Figures, tables, and multimedia**

##### *5.1. Figures and tables*

OSA express journals encourage authors to submit color and multimedia figures with their manuscripts. Figures and tables should be placed in the body of the manuscript.

Fig. 1. Sample caption (Ref. [4], Fig. 2).

Standard L<sup>A</sup>T<sub>E</sub>X environments should be used to place tables and figures:

```
\begin{figure}[htbp]
\centering\includegraphics[width=7cm]{opexfig1}
\caption{Sample caption (Ref. \cite{Oron03}, Fig. 2).}
\end{figure}
```

## 5.2. Multimedia and supplementary materials in OSA journals

Most OSA journals allow authors to include supplementary materials as integral parts of a manuscript. Such materials are subject to the same editorial standards and peer-review procedures as the rest of the manuscript. Authors who wish to submit supplementary materials must adhere to the following guidelines. Note that, with the exception of *Optica*, OSA journals require supplementary material consisting of additional text, figures, tables, equations, etc., to be included as an appendix to the manuscript and not as separate supplementary files.

To ensure consistent presentation, broad accessibility, and long-term archiving for multimedia files, please follow these guidelines on presentation. Please note that to create text color for media links, use of the `color.sty` package and the command `\textcolor{blue}{Media}` is preferred to using the command `\url{Media}`.

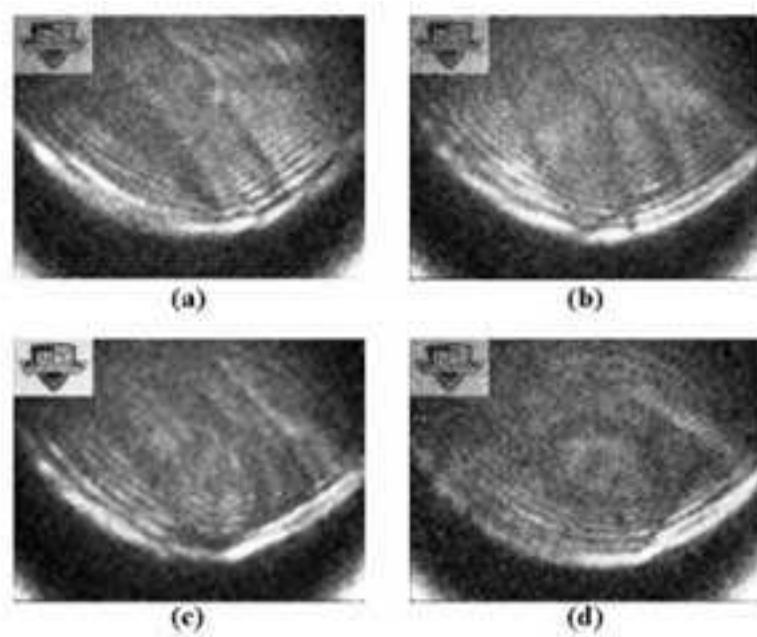


Fig. 2. Single-frame excerpts from video recordings of metallic objects concealed by opaque plastic tape. (a) Utility blade ([Media 1](#)). (b) Dentist's pick ([Media 2](#)). (c) Paper clip ([Media 3](#)). (d) Plastic/wire tie twisted into the shape of a loop ([Media 4](#)). (Sample figure adapted from [5].)

```
\begin{figure}[h]
\centering\includegraphics{opexfig2}
\caption{Single-frame excerpts from video recordings of metallic
objects concealed by opaque plastic tape. (a) Utility
blade (\textcolor{blue}{Media~1}). (b) Dentist's
pick (\textcolor{blue}{Media~2}). (c) Paper
clip (\textcolor{blue}{Media~3}).
(d) Plastic/wire tie twisted into the shape of a
loop (\textcolor{blue}{Media~4}). (Sample figure adapted
from \cite{samplefig}.)}
\end{figure}
```

Acceptable file types are MOV, AVI, MPG, and MP4. There are a variety of software applications to aid in creating this file format. OSA accepts the following QuickTime compressor types: Video, Graphics, Animation, Motion JPEG, Cinepak, and Uncompressed/None. OSA does not accept the Indeo 5 compressor.

The following multimedia guidelines will help with the submission process:

- 15 MB is the recommended maximum multimedia file size.
- Use one of the accepted compression codecs to minimize file sizes.
- 720 x 480 pixels (width by height) is the recommended screen size.
- Insert a representative frame from each movie in the manuscript as a figure.
- Videos must be playable using the free version of QuickTime on the Mac and PC.
- Animations must be formatted into a standard video file.

Please refer to the online style guide

(<http://www.opticsinfobase.org/oe/submit/style/multimedia.cfm>) for more detailed instructions on acceptable multimedia formats for audio and tabular data.

## 6. Mathematical and scientific notation

### 6.1. Displayed equations

Displayed equations should be centered. Equation numbers should appear at the right-hand margin, in parentheses:

$$H = \frac{1}{2m}(p_x^2 + p_y^2) + \frac{1}{2}M\Omega^2(x^2 + y^2) + \omega(xp_y - yp_x). \quad (1)$$

All equations should be numbered in the order in which they appear and should be referenced from within the main text as Eq. (1), Eq. (2), and so on [or as inequality (1), etc., as appropriate].

### 6.2. Inline math

To help with conversion, place all math in a proper math environment. For example, expression  $3 \times 4 = 12$  should be set this way,  $3 \times 4 = 12$ , not this way,  $3 \times 4 = 12$ . Simple fractions for inline math should use parentheses when necessary to avoid ambiguity, for example, to distinguish between  $1/(n-1)$  and  $1/n-1$ . Exceptions to this are the proper fractions such as  $\frac{1}{2}$ , which are better left in this form. Summations and integrals that appear within text such as  $\frac{1}{2} \sum_{n=1}^{n=\infty} (n^2 - 2n)^{-1}$  should have limits placed to the right of the symbol to reduce white space.

### 6.3. General guidelines on notation

Notation must be legible, clear, compact, and consistent with standard usage. In general, acronyms should be defined at first use. Adherence to the following guidelines will greatly assist the production process:

**Radical signs.** When possible, avoid oversized radical signs by using the notation of a superscript  $1/2$ . For example, change  $\sqrt{(a+b)(a-c)}$  to  $[(a+b)(a-c)]^{1/2}$ .

**Exponentials.** Avoid tiny superscripts of exponential  $e$  (e.g.,  $e^{jkl}$ ) by using the alternative  $\exp$  notation,  $\exp(jkl)$ .



**Article in a book**

D. F. Edwards, "Silicon (Si)," in *Handbook of Optical Constants of Solids*, E. D. Palik, ed. (Academic, 1985).

**Paper in a published conference proceedings**

R. E. Kalman, "Algebraic aspects of the generalized inverse of a rectangular matrix," in *Proceedings of Advanced Seminar on Generalized Inverse and Applications*, M. Z. Nashed, ed. (Academic, 1976), pp. 111–124.

**Paper published in an OSA conference proceedings**

R. Craig and B. Gignac, "High-power 980-nm pump lasers," in *Optical Fiber Communication Conference*, Vol. 2 of 1996 OSA Technical Digest Series (Optical Society of America, 1996), paper ThG1.

**Paper presented at a meeting/from an unpublished conference proceeding**

D. Steup and J. Weinzierl, "Resonant THz-meshes," presented at the Fourth International Workshop on THz Electronics, Erlangen-Tennenlohe, Germany, 5–6 Sept. 1996.

**SPIE proceedings**

S. K. Griebel, M. Richardson, K. E. Devenport, and H. S. Hinton, "Experimental performance of an ATM-based buffered hyperplane CMOS-SEED smart pixel array," *Proc. SPIE* **3005**, 254–256 (1997).

*For later SPIE proceedings with a paper number, cite just the number and not any page information.*

S. Gu, F. Shao, G. Jiang, F. Li, and M. Yu, "An objective visibility threshold measurement method for asymmetric stereoscopic images," *Proc. SPIE* **8205**, 820505 (2011).

**IEEE proceedings**

T. Darrel and K. Wohn, "Pyramid based depth from focus," in *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition* (IEEE, 1988), pp. 504–509.

**Paper accepted for publication**

D. Piao, "Cancellation of coherent artifacts in optical coherence tomography imaging," *Appl. Opt.* (to be published).

D. W. Diehl and T. D. Visser, "Phase singularities of the longitudinal field components in the focal region of a high-aperture optical system," *J. Opt. Soc. Am. A*, doc. ID 56789 (posted 11 November 2005, in press).

**Manuscript in preparation**

J. Q. Smith, Laboratory for Laser Energetics, University of Rochester, 250 East River Road, Rochester, New York 14623, USA, and K. Marshall are preparing a manuscript to be called "Optical aspects in liquid crystals."

**Personal communication**

T. Miller, Publications Department, Optical Society of America, 2010 Massachusetts Avenue, N.W., Washington, D.C., 20036 (personal communication, 2010).

**Internet links**

Extreme Networks white paper, "Virtual metropolitan area networks," (Extreme Networks, 2001), <http://www.extremenetworks.com/technology/whitepapers/vMAN.asp>.

A. G. Ramm, "Invisible obstacles," <http://www.arxiv.org/abs/math-ph/0608034>.

The commands `\begin{thebibliography}{}` and `\end{thebibliography}` format the section according to standard style, showing the title **References and links**. Use the `\bibitem{label}` command to start each reference.

### 7.2. Formatting reference citations

References should be numbered consecutively in the order in which they are referenced in the body of the paper. Set reference callouts with standard `\cite{}` command or set manually inside square brackets [1].

To reference multiple articles at once, simply use the cite command with a comma separating the reference labels, e.g. `\cite{gallo99,Masters98a,Oron03}`, produces [2, 3, 4]. Using the `cite.sty` package will make these citations appear like so: [2–4].

### 7.3. BibTeX

BibTeX may be used to create a file containing the references, whose contents (i.e., contents of .bbl file) can then be pasted into the bibliography section of the .tex file. A new BibTeX style file, `osajnl.bst`, is provided.

To assist authors with journal abbreviations in references, standard abbreviations for 31 commonly cited journals have been included as macros within `opex3.sty`. The abbreviations are shown in Table 1.

Table 1. Standard abbreviations for commonly cited journals.

Macro	Abbreviation	Macro	Abbreviation
<code>\ao</code>	Appl. Opt.	<code>\jpp</code>	J. Phys.
<code>\aop</code>	Adv. Opt. Photon.	<code>\nat</code>	Nature
<code>\ap</code>	Appl. Phys.	<code>\oc</code>	Opt. Commun.
<code>\apl</code>	Appl. Phys. Lett.	<code>\opex</code>	Opt. Express
<code>\apj</code>	Astrophys. J.	<code>\ol</code>	Opt. Lett.
<code>\as</code>	Appl. Spectrosc.	<code>\ome</code>	Opt. Mater. Express
<code>\bell</code>	Bell Syst. Tech. J.	<code>\opn</code>	Opt. Photon. News
<code>\boe</code>	Biomed. Opt. Express	<code>\pl</code>	Phys. Lett.
<code>\jqe</code>	IEEE J. Quantum Electron.	<code>\pr</code>	Photon. Res.
<code>\assp</code>	IEEE Trans. Acoust. Speech Signal Process.		
<code>\aprop</code>	IEEE Trans. Antennas Propag.	<code>\prb</code>	Phys. Rev. A
<code>\mtt</code>	IEEE Trans. Microwave The- ory Tech.	<code>\prc</code>	Phys. Rev. B
<code>\iovs</code>	Invest. Ophthalmol. Vis. Sci.	<code>\prd</code>	Phys. Rev. C
<code>\jcp</code>	J. Chem. Phys.	<code>\pre</code>	Phys. Rev. D
<code>\jmo</code>	J. Mod. Opt.	<code>\pra</code>	Phys. Rev. E
<code>\jocn</code>	J. Opt. Commun. Netw.	<code>\prl</code>	Phys. Rev. Lett.
<code>\jon</code>	J. Opt. Netw.	<code>\rmp</code>	Rev. Mod. Phys.
<code>\josa</code>	J. Opt. Soc. Am.	<code>\pspie</code>	Proc. Soc. Photo-Opt. Instrum. Eng.
<code>\josaa</code>	J. Opt. Soc. Am. A	<code>\sjqe</code>	Sov. J. Quantum Electron.
<code>\josab</code>	J. Opt. Soc. Am. B	<code>\vr</code>	Vision Res.



## 8. Conclusion

After proofreading the manuscript, compress your .TEX manuscript file and all figures (which should be in EPS format, or PDF format if you are using PDF- $\LaTeX$ ) in a ZIP, TAR or TAR-GZIP package. Prism, OSA's article tracking system, will process in  $\LaTeX$  mode by default but will use PDF- $\LaTeX$  if PDF figure files are detected. Note: TAR or TAR-GZIP is no longer required. All files must be referenced at the root level (e.g., file `figure-1.eps`, not `/myfigs/figure-1.eps`). If there is video or other multimedia, the associated files should be uploaded separately.