

¹ Universal manuscript template for Optica Publishing Group journals

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²⁴ **1. Introduction**

²⁵ Adherence to the specifications listed in this template is essential for efficient review and publication of submissions. Proper reference format is especially important (see Section 8). For submissions to the Optica Open preprint server, many of the style and format guidelines described in this template are not applicable, although adhering to the instructions in this template will ease the process to convert a preprint to an Optica Publishing Group journal submission. You may find it helpful to use our optional [Paperpal](#) manuscript readiness check and [language polishing service](#).

³² **2. Corresponding author**

³³ We require manuscripts to identify a single corresponding author. The corresponding author typically is the person who submits the manuscript and handles correspondence throughout the peer review and publication process.

```
36 \author{Author One\authormark{1} and Author Two\authormark{2,*}}  
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39 Optica Publishing Group, 2010 Massachusetts Avenue NW,  
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45 This format will generate the following appearance:

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52 If other statements about author contribution and contact are needed, they can be added in
53 addition to the corresponding author designation.

54 \author{Author One\authormark{1,\$\dag\$} and Author Two\authormark{2,\$\dag\$,*}}
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56 \address{\authormark{1}Peer Review, Publications Department,
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58 Washington, DC 20036, USA\\
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68 *20036, USA*

69 [†]*The authors contributed equally to this work.*

70 ^{*}*xyz@optica.org*

71 **3. Abstract**

72 The abstract should be limited to approximately 100 words. If the work of another author is cited
73 in the abstract, that citation should be written out without a number, (e.g., journal, volume, first
74 page, and year in square brackets [Opt. Express **22**, 1234 (2014)]), and a separate citation should
75 be included in the body of the text. The first reference cited in the main text must be [1]. Do
76 not include numbers, bullets, or lists inside the abstract. Note that no licensing or copyright
77 statement should appear on the manuscript itself. Such information will be added to the Accepted
78 Manuscript, the published version, or the Optica Open preprint as part of production to ensure
79 accuracy and consistency of appearance.

80 **4. Assessing final manuscript length**

81 The Universal Manuscript Template is based on the Express journal layout and will provide
82 an accurate length estimate for *Optics Express*, *Biomedical Optics Express*, *Optical Materials*
83 *Express*, *Optica Quantum*, and *Optics Continuum*. *Applied Optics*, JOSAA, JOSAB, *Optics*
84 *Letters*, *Optica*, *Optica Quantum*, *Optics Continuum*, and *Photonics Research* publish articles
85 in a two-column layout. To estimate the final page count in a two-column layout, multiply the
86 manuscript page count (in increments of 1/4 page) by 60%. For example, 11.5 pages in the
87 Universal Manuscript Template are roughly equivalent to 7 composed two-column pages. Note
88 that the estimate is only an approximation, as treatment of figure sizing, equation display, and

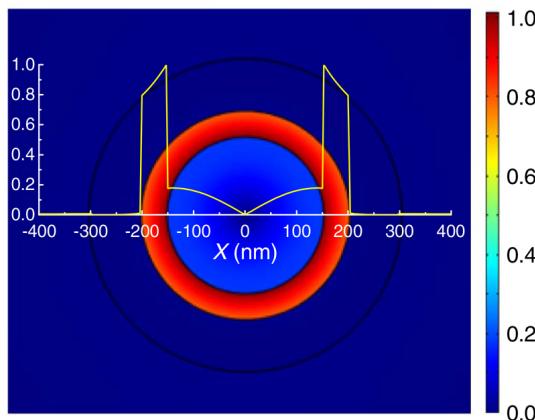


Fig. 1. Sample caption (Fig. 2, [1]).

89 other aspects can vary greatly across manuscripts. Authors of Letters may use the legacy template
 90 for a more accurate length estimate.

91 **5. Figures, tables, and supplementary materials**

92 *5.1. Figures and tables*

93 Figures and tables should be placed in the body of the manuscript. Standard L^AT_EX environments
 94 should be used to place tables and figures:

```
95 \begin{figure} [htbp]
96 \centering\includegraphics[width=7cm]{opticafig1}
97 \caption{Sample caption (Fig. 2, \cite{Yelin:03}) .}
98 \end{figure}
```

99 *5.2. Supplementary materials in Optica Publishing Group journals*

100 Our journals allow authors to include supplementary materials as integral parts of a manuscript.
 101 Such materials are subject to peer-review procedures along with the rest of the paper and should
 102 be uploaded and described using our Prism manuscript system. Please refer to the [Author](#)
 103 [Guidelines for Supplementary Materials in Optica Publishing Group Journals](#) for more detailed
 104 instructions on labeling supplementary materials and your manuscript. For preprints submitted
 105 to Optica Open a link to supplemental material should be included in the submission

106 **Authors may also include Supplemental Documents** (PDF documents with expanded
 107 descriptions or methods) with the primary manuscript. At this time, supplemental PDF files are
 108 not accepted for partner titles, JOCN and *Photonics Research*. To reference the supplementary
 109 document, the statement “See Supplement 1 for supporting content.” should appear at the bottom
 110 of the manuscript (above the References heading).

111 *5.3. Sample Dataset Citation*

112 1. M. Partridge, "Spectra evolution during coating," figshare (2014), <http://dx.doi.org/10.6084/m9.figshare.1004612>.

113 *5.4. Sample Code Citation*

114 2. C. Rivers, "Epipy: Python tools for epidemiology," figshare (2014) [retrieved 13 May 2015],
 115 <http://dx.doi.org/10.6084/m9.figshare.1005064>.

116 **6. Mathematical and scientific notation**

117 *6.1. Displayed equations*

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

$$J(\rho) = \frac{\gamma^2}{2} \sum_{k(\text{even})=-\infty}^{\infty} \frac{(1+k\tau)}{[(1+k\tau)^2 + (\gamma\rho)^2]^{3/2}}. \quad (1)$$

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

122 **7. Backmatter**

123 Backmatter sections should be listed in the order Funding/Acknowledgment/Disclosures/Data
124 Availability Statement/Supplemental Document section. An example of backmatter with each of
125 these sections included is shown below.

126 **Funding.** Content in the funding section will be generated entirely from details submitted to Prism.
127 Authors may add placeholder text in the manuscript to assess length, but any text added to this section
128 in the manuscript will be replaced during production and will display official funder names along with
129 any grant numbers provided. If additional details about a funder are required, they may be added to the
130 Acknowledgments, even if this duplicates information in the funding section. See the example below in
131 Acknowledgements. For preprint submissions, please include funder names and grant numbers in the
132 manuscript.

133 **Acknowledgments.** The section title should not follow the numbering scheme of the body of the paper.
134 Additional information crediting individuals who contributed to the work being reported, clarifying who
135 received funding from a particular source, or other information that does not fit the criteria for the funding
136 block may also be included; for example, “K. Flockhart thanks the National Science Foundation for help
137 identifying collaborators for this work.”

138 **Disclosures.** Disclosures should be listed in a separate nonnumbered section at the end of the manuscript.
139 List the Disclosures codes identified on the [Conflict of Interest policy page](#), as shown in the examples below:

140 ABC: 123 Corporation (I,E,P), DEF: 456 Corporation (R,S). GHI: 789 Corporation (C).

141 If there are no disclosures, then list “The authors declare no conflicts of interest.”

142 **Data Availability Statement.** A Data Availability Statement (DAS) will be required for all submissions
143 beginning 1 March 2021. The DAS should be an unnumbered separate section titled “Data Availability”
144 that immediately follows the Disclosures section. See the [Data Availability Statement policy page](#) for more
145 information.

146 Optica has identified four common (sometimes overlapping) situations that authors should use as guidance.
147 These are provided as minimal models, and authors should feel free to include any additional details that
148 may be relevant.

149 1. When datasets are included as integral supplementary material in the paper, they must be declared
150 (e.g., as “Dataset 1” following our current supplementary materials policy) and cited in the DAS, and
151 should appear in the references.

152 **Data availability.** Data underlying the results presented in this paper are available in Dataset 1,
153 Ref. [3].

154 2. When datasets are cited but not submitted as integral supplementary material, they must be cited in
155 the DAS and should appear in the references.

156 **Data availability.** Data underlying the results presented in this paper are available in Ref. [3].

- 157 3. If the data generated or analyzed as part of the research are not publicly available, that should be
158 stated. Authors are encouraged to explain why (e.g. the data may be restricted for privacy reasons),
159 and how the data might be obtained or accessed in the future.

160 **Data availability.** Data underlying the results presented in this paper are not publicly available at
161 this time but may be obtained from the authors upon reasonable request.

- 162 4. If no data were generated or analyzed in the presented research, that should be stated.

163 **Data availability.** No data were generated or analyzed in the presented research.

164 Data availability statements are not required for preprint submissions.

165 **Supplemental document.** See Supplement 1 for supporting content.

166 8. References

167 Proper formatting of references is extremely important, not only for consistent appearance but
168 also for accurate electronic tagging. Please follow the guidelines provided below on formatting,
169 callouts, and use of Bib \TeX .

170 8.1. Formatting reference items

171 Each source must have its own reference number. Footnotes (notes at the bottom of text pages)
172 are not used in our journals. List up to three authors, and if there are more than three use *et al.*
173 after that. Examples of common reference types can be found in the [style guide](#).

174 The commands `\begin{thebibliography} {}` and `\end{thebibliography}` for-
175 mat the section according to standard style, showing the title **References**. Use the `\bibitem{label}`
176 command to start each reference.

177 8.2. Formatting reference citations

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

181 To reference multiple articles at once, simply use a comma to separate the reference labels, e.g.
182 `\cite{Yelin:03, Masajada:13, Zhang:14}`, produces [1–3].

183 8.3. Bib \TeX

184 Bib \TeX may be used to create a file containing the references, whose contents (i.e., contents of
185 `.bb1` file) can then be pasted into the bibliography section of the `.tex` file. A Bib \TeX style file,
186 `opticajnl.bst`, is provided.

187 If your manuscript already contains a manually formatted `\begin{thebibliography} ...`
188 `\end{thebibliography}` list, then delete the `latexmkrc` file (if present) from your
189 submission files. However you should ensure that your manually-formatted reference list adheres
190 to style accurately.

191 9. Conclusion

192 After proofreading the manuscript, compress your `.tex` manuscript file and all figures (which
193 should be in EPS or PDF format) in a ZIP, TAR or TAR-GZIP package. All files must be
194 referenced at the root level (e.g., file `figure-1.eps`, not `/myfigs/figure-1.eps`). If
195 there are supplementary materials, the associated files should not be included in your manuscript
196 archive but be uploaded separately through the Prism interface.

197 Add references with Bib \TeX or manually. [1–8]

198 **References**

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- 214