

Universal manuscript template for Optica Publishing Group journals

AUTHOR ONE,^{1,*} AUTHOR TWO,¹ AND AUTHOR THREE¹

¹Reserch Institute for Interdisciplinary Science, Okayama University, Okayama, Japan

*imai1117@okayama-u.ac.jp

Abstract: not yet

© 2022 Optica Publishing Group under the terms of the [Optica Publishing Group Publishing Agreement](#)

1. Introduction

not yet

2. Experimental setup

2.1. 976 nm amplifier system

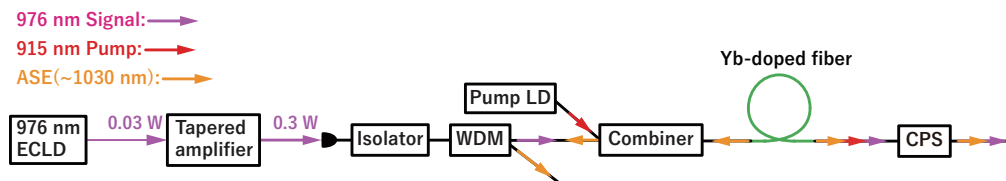


Fig. 1. 976 nm YDFA system.

A schematic of the 976 nm YDFA system is shown in Fig. 1. An external-cavity laser diode (ECLD) at 976 nm is used for a seed laser. The seed laser is pre-amplified by tapered amplifier from 30 mW to 900 mW, and coupled to the YDFA input fiber which is a polarization maintaining (PM) fiber with a FPC/AC connector. The seed input of the YDFA is connected to an isolator and a wavelength division multiplexing (WDM) filter, which are used to block return light such as backward ASE to the seed laser. The seed and pump are combined into a double cladding PM fiber which has a core diameter of 20 μm and a cladding diameter of 125 μm by a pump and signal combiner. The 915 nm radiation for pumping the Yb-doped fiber is generated from fiber-coupled laser diode with an output power of up to 70 W. The output is directly fusion-spliced to a input port of the pump and signal combiner. The combiner output is spliced to the Yb-doped fiber. The cladding power stripper (CPS) is connected after Yb-doped fiber to remove a residual pump power in the output of Yb-doped fiber. The Yb-doped fiber nLIGHT Yb1200-25/125DC-PM is used as the gain fiber. The fiber is fixed on top of the water-cooled heatsink with a thermal conductive sheet.

2.2. 987 nm amplifier system

2.3. 1112 nm amplifier system

3. Results and discussion

The abstract should be limited to approximately 100 words. If the work of another author is cited in the abstract, that citation should be written out without a number, (e.g., journal, volume, first page, and year in square brackets [Opt. Express **22**, 1234 (2014)]), and a separate citation should

32 be included in the body of the text The first reference cited in the main text must be [1] Do not
33 include numbers, bullets, or lists inside the abstract.

34 **4. Assessing final manuscript length**

35 The Universal Manuscript Template is based on the Express journal layout and will provide
36 an accurate length estimate for *Optics Express*, *Biomedical Optics Express*, *Optical Materials*
37 *Express*, and our newest title *OSA Continuum Applied Optics*, JOSAA, JOSAB, *Optics Letters*,
38 *Optica*, and *Photonics Research* publish articles in a two-column layout To estimate the final page
39 count in a two-column layout, multiply the manuscript page count (in increments of 1/4 page) by
40 60% For example, 11.5 pages in the Universal Manuscript Template are roughly equivalent to 7
41 composed two-column pages Note that the estimate is only an approximation, as treatment of
42 figure sizing, equation display, and other aspects can vary greatly across manuscripts Authors of
43 Letters may use the legacy template for a more accurate length estimate.

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

45 *5.1. Figures and tables*

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

```
48 \begin{figure} [htbp]  
49 \centering\includegraphics[width=7cm]{osafig1}  
50 \caption{Sample caption (Fig. 2, \cite{Yelin:03}).}  
51 \end{figure}
```

52 *5.2. Supplementary materials in Optica Publishing Group journals*

53 Our journals allow authors to include supplementary materials as integral parts of a manuscript
54 Such materials are subject to peer-review procedures along with the rest of the paper and should be
55 uploaded and described using our Prism manuscript system Please refer to the [Author Guidelines](#)
56 [for Supplementary Materials in Optica Publishing Group Journals](#) for more detailed instructions
57 on labeling supplementary materials and your manuscript.

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

63 *5.3. Sample Dataset Citation*

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

65 *5.4. Sample Code Citation*

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

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:

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

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].

7. Backmatter

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

117 8. References

118 Proper formatting of references is extremely important, not only for consistent appearance but
119 also for accurate electronic tagging Please follow the guidelines provided below on formatting,
120 callouts, and use of BibTeX.

121 8.1. Formatting reference items

122 Each source must have its own reference number Footnotes (notes at the bottom of text pages) are
123 not used in our journals References require all author names, full titles, and inclusive pagination
124 Examples of common reference types can be found in the [style guide](#).

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

128 8.2. Formatting reference citations

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

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

134 8.3. BibTeX

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

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

142 9. Conclusion

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

148 Add references with BibTeX or manually. [1–8]

References

1. D. Yelin, D. Oron, S. Thiberge, E. Moses, and Y. Silberberg, "Multiphoton plasmon-resonance microscopy," *Opt. Express* **11**, 1385–1391 (2003).
2. J. Masajada, M. Bacia, and S. Drobczyński, "Cluster formation in ferrofluids induced by holographic optical tweezers," *Opt. Lett.* **38**, 3910–3913 (2013).
3. Y. Zhang, S. Qiao, L. Sun, Q. W. Shi, W. Huang, L. Li, and Z. Yang, "Photoinduced active terahertz metamaterials with nanostructured vanadium dioxide film deposited by sol-gel method," *Opt. Express* **22**, 11070–11078 (2014).
4. Optica, "Optica Publishing Group," <https://www.opg.optica.org>.
5. P. Forster, V. Ramaswamy, P. Artaxo, T. Bernsten, R. Betts, D. Fahey, J. Haywood, J. Lean, D. Lowe, G. Myhre, J. Nganga, R. Prinn, G. Raga, M. Schulz, and R. V. Dorland, "Changes in atmospheric constituents and in radiative forcing," in *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth assesment report of Intergovernmental Panel on Climate Change*, S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor, and H. L. Miler, eds. (Cambridge University Press, 2007).
6. B. H. Dean, D. L. Aronstein, S. J. Smith, R. Shiri, and S. D. Acton, "Phase retrieval algorithm for JWST flight and testbed telescope," in *Space Telescopes and Instrumentation I: Optical, Infrared, and Millimeter*, vol. 6265 (2006), p. 17.
7. R. McKay, "X-ray crystallography," Ph.D. thesis, Princeton University (1982).
8. C. Rivers, "EpiPy: Python tools for epidemiology," figshare (2014) [retrieved 13 May 2015], <http://dx.doi.org/10.6084/m9.figshare.1005064>.