LaTeX template for preparing an article for submission to OSA journals *Applied Optics*, JOSA A, JOSA B, and *Optics Letters*

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OCIS codes: (140.3490) Lasers, distributed feedback; (060.2420) Fibers, polarization-maintaining;(060.3735) Fiber Bragg gratings.

1. INTRODUCTION

This template is designed to assist with creating an article to submit to *Applied Optics*, JOSA A, JOSA B, or *Optics Letters*. See the OSA's Style Guide and Manuscript Templates pages for more details. Use the shortarticle/false option for *Applied Optics*, JOSA A, and JOSA B. Use the shortarticle/true option for *Optics Letters*. Select the appropriate journal abbreviation (ao, josaa, josab, ol).

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2. EXAMPLES OF ARTICLE COMPONENTS

The sections below show examples of different article components.

3. FIGURES AND TABLES

It is not necessary to place figures and tables at the back of the manuscript. Figures and tables should be sized as they are to appear in the final article. Do not include a separate list of figure captions and table titles.

Figures and Tables should be labelled and referenced in the standard way using the `\label{}` and `\ref{}` commands.

A. Sample Figure

Figure 1 shows an example figure.
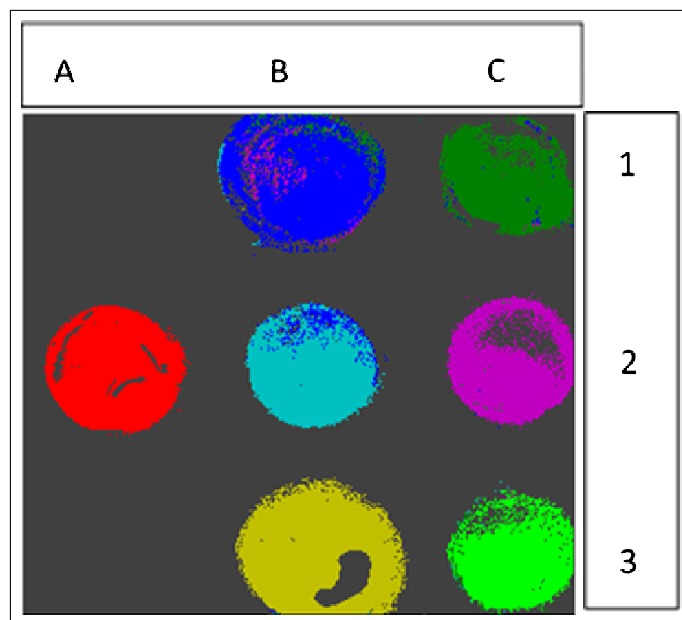
Fig. 1. False-color image, where each pixel is assigned to one of seven reference spectra.

B. Sample Table

Table 1 shows an example table.

Table 1. Shape Functions for Quadratic Line Elements

local node	$\{N\}_m$	$\{\Phi_i\}_m\ (i = x, y, z)$
$m = 1$	$L_1(2L_1 - 1)$	Φ_{i1}
$m = 2$	$L_2(2L_2 - 1)$	Φ_{i2}
$m = 3$	$L_3 = 4L_1L_2$	Φ_{i3}

4. SAMPLE EQUATION

Let $X_1, X_2, \ldots, X_n$ be a sequence of independent and identically distributed random variables with $E[X_i] = \mu$ and $Var[X_i] = \sigma^2 < \infty$, and let

$$S_n = \frac{X_1 + X_2 + \cdots + X_n}{n} = \frac{1}{n}\sum_i^n X_i \qquad (1)$$

denote their mean. Then as n approaches infinity, the random variables $\sqrt{n}(S_n - \mu)$ converge in distribution to a normal $\mathcal{N}(0, \sigma^2)$.

5. SAMPLE ALGORITHM

Algorithms can be included using the commands as shown in algorithm 1.

Algorithm 1. Euclid's algorithm

```
1: procedure EUCLID(a, b)              ▷ The g.c.d. of a and b
2:     r ← a mod b
3:     while r ≠ 0 do                  ▷ We have the answer if r is 0
4:         a ← b
5:         b ← r
6:         r ← a mod b
7:     return b                        ▷ The gcd is b
```

6. SUPPLEMENTAL MATERIAL

Consult the Author Guidelines for Supplementary Materials in OSA Journals for details on accepted types of materials and instructions on how to cite them. All materials must be associated with a figure, table, or equation or be referenced in the results section of the manuscript. (1) 2D and 3D image files and video must be labeled "Visualization," not "Movie," "Video," "Figure," etc. (2) Machine-readable data (for example, csv files) must be labeled "Data File." Number data files and visualizations consecutively, e.g., "Visualization 1, Visualization 2...." (3) Large datasets or code files must be placed in an open, archival database. Such items should be mentioned in the text as either "Dataset" or "Code," as appropriate, and also be cited in the references list. For example, "see Dataset 1 (Ref. [1]) and Code 1 (Ref [2])." Here are examples of the references:

A. Sample Dataset Citation

1.   M. Partridge, "Spectra evolution during coating," figshare (2014) [retrieved 13 May 2015], http://dx.doi.org/10.6084/m9.figshare.1004612.

B. Sample Code Citation

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

7. FUNDING INFORMATION

8. REFERENCES

Note that *Optics Letters* uses an abbreviated reference style. Citations to journal articles should omit the article title and final page number. However, full references (to aid the editor and reviewers) must be included as well on a fifth informational page that will not count against page length.

Add citations manually or use BibTeX. See [1].

REFERENCES

1. 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).