

# Template of abstract summary for SPIE Digital Library publication\*

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## ABSTRACT

\*Papers must be at least 2 pages in length and also be approved by the conference chair in order to be published in the SPIE Digital Library and indexed in scientific databases. Begin the abstract two lines below author names and addresses. The abstract summarizes key findings in the paper. It is a paragraph of 250 words or less. For the **keywords**, select up to 8 key terms for a search on your manuscript's subject.

**Keywords:** Times Roman, image area, acronyms, references

## 1. INTRODUCTION

Begin the Introduction two lines below the Keywords. The manuscript should not have headers, footers, or page numbers. It should be in a one-column format. References are often noted in the text<sup>1</sup> and cited at the end of the paper.

### 1.1 Margins

If the paper does not have the margins shown in Table 1, it will not upload properly.

Table 1. Margins and print area specifications.

PAPER MARGINS		
<u>A4</u>		
Top margin	2.54 cm	(1 in.)
Bottom margin	4.94 cm	(1.95 in.)
Left, right margin	1.925 cm	(.76 in.)
<u>Printable area--all text, figures and footnotes:</u>		
A4:	17.15×22.23 cm	

### 1.2 Fonts

Table 2 shows the font sizes and highlighting in a typical manuscript. These font "styles" are contained with this sample manuscript and Section 4 below explains how to use them. Use Times Roman or another standard font to avoid font errors.

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Table 2. Manuscript font sizes and formatting. This Microsoft Word template includes these formats as automated "styles," which can be selected in the Format menu -- Styles and Formatting. (9pt)

Preformatted SPIE Template Styles	
<i>Manuscript component</i>	<i>Description</i>
<b>SPIE paper title</b>	<b>16 pt. bold, center</b>
<b>SPIE authors/affiliations</b>	<b>12 pt., center</b>
<b>Keywords:</b> *Keywords*	10 pt., left justify
<b>SPIE ABSTRACT TITLE</b>	<b>11 PT. BOLD, center</b>
SPIE abstract body text	10 pt., justify
<b>SPIE SECTION HEADING</b>	<b>11 pt. BOLD, center, whole numbers</b>
<b>1.1 Heading 2, SPIE subsection heading</b>	<b>10 pt. bold, left justify, subsection numbers</b>
SPIE body text	10 pt., justify
SPIE figure caption	9 pt., justify below figure
SPIE table caption	9 pt., justify above figure
SPIE footnote text	9 pt., justify, numbered
<b>REFERENCE HEADING</b>	<b>11 pt. BOLD, center</b>
1. SPIE reference listing	10 pt., justify, numbered in brackets

## 2. FORMATTING OF MANUSCRIPT COMPONENTS

### 2.1 Title

Center the paper title at the top of the page in 16-pt. bold. Only the first word, proper nouns, and acronyms are capitalized. Keep titles brief and descriptive. Spell out acronyms unless they are widely known. Avoid starting with articles or prepositions, e.g., “The study of ...,” or, “On the ....”

### 2.2 Author affiliations

The author list is in 12-pt. regular, centered. Omit titles and degrees such as Dr., Prof., Ph.D., etc. The list of affiliations follows. Each author's affiliation should be clearly noted.

### 2.3 Section headings

Section headings are 11-pt. bold capitals, centered. Sections numbers have whole numbers, e.g., 1, 2, 3... Don't number the "Acknowledgements" and "References." Headings often used are: 1. Introduction, 2. Methodology, 3. Data, 4. Results, and 5. Conclusions.

### 2.4 Subsection heading

Subsection headings are left-justified, 10-pt. bold. Capitalize the first word, acronyms, and proper nouns.

### 2.5 Paragraphs

Add a blank line above and below section headings and between paragraphs. Avoid headings or one-line paragraphs at the top or bottom of a page by using page breaks or extra blank lines. One method to preserve page breaks is to make the bottom margin a little larger than the specifications. Indentation is optional. This spacing is automatic if you are using the SPIE "section" styles in Word.

### 2.6 Text

Text is 10 point and justified. Each sentence ends with a period and a single space before the next sentence.

## 2.7 Figures and captions

Figures are centered. Use or insert .jpg, .tiff, or .gif illustrations instead of PowerPoint or graphic constructions. Captions go below figures. Indent 5 spaces from left margin and justify.



Figure 1. Figure captions are indented 5 spaces and justified. If you are familiar with Word styles, you can insert a field code called Seq figure which automatically numbers your figures.

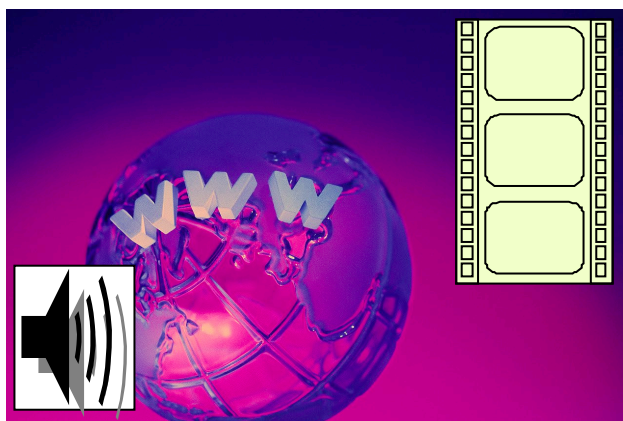
## 2.8 Tables and captions

Tables are centered. The caption goes above the table. The caption text should indent 5 spaces from left margin and justify. Table examples are on page 1 and 2 and below.

## 3. MULTIMEDIA FIGURES – VIDEO AND AUDIO FILES

Video and audio files can be included for publication. Table 3 lists the specifications for the multimedia files. Use a screenshot or another .jpg illustration for placement in the text. Use the file name to begin the caption. The text of the caption must end with the text "<http://dx.doi.org/doi.number.goes.here>" which tells the SPIE editor where to insert the hyperlink in the digital version of the manuscript.

Here is a sample illustration and caption for a multimedia file:



Video 2. A label of "Video/Audio 1, 2, ..." should appear at the beginning of the caption to indicate to which multimedia file it is linked. Include this text at the end of the caption: <http://dx.doi.org/doi.number.goes.here>

Table 3. Information on video and audio files that can accompany a manuscript submission.

Item	Video	Audio
File name	Video1, video2, ...	Audio1, audio2, ...
Number of files	0-10	0-10
Size of each file	max. 5 mb	max. 5mb
File types accepted	.mpeg, .mov (Quicktime), .wmv (Windows Media Player)	.wav, .mp3

#### 4. MATHEMATICAL EQUATIONS

Use common fonts like Times Roman in your math equations. A math reference in a paragraph sentence such as  $\alpha g \frac{\rho}{s}$  is not numbered. The steps of a mathematical argument can be numbered using a right-aligned tab for clarity, for example

$$\alpha = \frac{-b \pm \sqrt{b^2 - 2ac}}{2o} \quad (1)$$

and

$$\rho = \sum (x - x')^2. \quad (2)$$

#### REFERENCES

- [1] Booth, N. and Smith, A. S., [Infrared Detectors], Goodwin House Publishers, New York & Boston, 241-248 (1997).
- [2] Davis, A. R., Bush, C., Harvey, J. C. and Foley, M. F., "Fresnel lenses in rear projection displays," SID Int. Symp. Digest Tech. Papers 32(1), 934-937 (2001).
- [3] Van Derlofske, J. F., "Computer modeling of LED light pipe systems for uniform display illumination," Proc. SPIE 4445, 119-129 (2001).
- [4] Myhrvold, N., "Confessions of a cybershaman," Slate, 12 June 1997, <<http://www.slate.com/CriticalMass/97-06-12/CriticalMass.asp>> (19 October 1997). [www.optics4yurresearch.com/7752.html](http://www.optics4yurresearch.com/7752.html)
- [5] Jones, C. J., Director, Miscellaneous Optics Corporation, interview, Sept. 23 2011
- [6] FamilyName, GivenName Initial., "Title," Source, pg# (year).