

# AUTHOR'S GUIDE

## Preparation of Papers in Two-Column Format for the Symposium on VLSI Technology and Circuits

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### Abstract

The abstract is a brief (150 word) synopsis of your 2-page paper. Its use is to provide a quick outline of your presentation, giving the reader an overview of the research. This is an important aspect of your paper, as it is this description that may attract the reader to continue and finish your full report. Keywords should be so chosen that they best describe the contents of the paper. In most cases, these words can be found in the title and abstract. Key performance and figures of merit are often mentioned in the abstract. Noun forms without articles must be used. The use of hyphens and prepositions should be avoided. Keywords, 5-10 in number, should be typed on the next line after the abstract, starting with the headline

**Keywords:** Each keyword, except proper nouns and acronyms, should be typed in lower-case letters and followed by a comma, except for the last one. (Example keywords: VLSI, CMOS and SOI). Keywords are necessary to efficiently search the papers on IEEE Xplore®.

### Introduction

These instructions give you basic guidelines for preparing camera-ready (CR) papers for the VLSI Symposium. The instructions assume that you have computer desktop publishing equipment with several fonts.

Your goal is to simulate, as closely as possible, the usual appearance of published papers in the VLSI Symposium Digests.

Your manuscript should be IEEE Xplore®-compatible through PDF eXpress, during your submission process. Be sure to complete the submission after the conversion.

### How to Format the Page

Space is a precious resource in VLSI Symposium papers. In most cases there are no empty lines between section titles and text. If you want to start text on the same line as the Section title, make sure to emphasize the latter in bold or italic. Subsections are rarely used but if necessary you may want to highlight with the use of slanted fonts and continue the text on the same line.

A. *Full-Size Camera-Ready (CR) Copy.* Prepare Camera - Ready paper in full size format, on A4 size or 8 1/2" x 11" (215.9 mm x 279.4 mm) paper.

this is a sample figure (graph a)	this is a sample figure (graph b)
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Fig. 1 This is a sample figure with graph (a) and graph (b). Captions exceeding one line are arranged like this.

*B. Fonts:* The best results are obtained by careful and effective use of several font sizes. Do not use fonts smaller than the fonts specified in Table I. As an aid to gauging font size, 1 point is about 0.35 mm. Use a proportional, serif font such as Times or Dutch Roman. Arial and Calibri fonts are often used for figure captions and labels.

*C. Formats:* In formatting your A4-size paper, set top margin to 20 mm (0.79 inches), bottom margin to 25 mm (0.98 inches), left margin to 14 mm (0.55 inches) and right margin to 15 mm (0.59 inches). If you are using paper 8 1/2" x 11", set the top margin to 10 mm (0.39 inches), bottom margin to 17.4 mm (0.69 inches), left margin to 17 mm (0.67 inches), and right margin to 17.9 mm (0.70 inches). The column width is 88 mm (3.46 inches) with 5 mm (0.20 inches) space between the two columns.

TABLE I  
FONT SIZES FOR CAMERA-READY PAPERS

Font Size	Bold	Italic	Text
10			Main text, authors' affiliations
10	Yes		Headings, i.e. <b>Abstract</b>
12			Authors' names
14	Yes		<b>Paper title</b>
10		Yes	Sub-headings, i.e., <i>Fonts</i>
9			References, table, table names, table captions, figure captions
8			Footnotes, sub- and superscripts

You should left- and right-justify your columns. On the last page of your paper, try to adjust the lengths of the two columns so that they are the same. Use automatic hyphenation, if you have it. Don't forget to check spelling.

### Illustrations

Either position figures and tables at the tops and bottoms of columns, if possible, or group all of them in the second page (most common choice). In the first case, try to place the figures and tables after their first mention in the text. Large figures and

tables may span both columns. Figure captions should be below the figures; table captions should be above the tables. Use the abbreviation (e.g., “Fig.1”) or the bold (e.g., “**Fig.1**”) for immediate identification even at the beginning of a sentence.

All half-tone illustrations (pictures/photographs) should be clear black and white prints. Do not use low resolution cut-and-paste from other formats or photocopies. Always remember that VLSI Symposia proceedings are printed in black and white. Curves in the graphs can be colored, but should be distinguishable also in B/W prints. To this end, use appropriate symbols and line styles (solid, dashed, etc.). Make sure all figures captions, legends, tick and axis labels are easily readable.

### Helpful Hints

#### A. References

List and number all references at the end of the paper. When referring to them in the text, type the corresponding reference number in square brackets as shown at the end of this sentence [1]. Number the citations consecutively. The sentence punctuation follows the brackets. Do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence.

Number footnotes separately in superscripts. Place the actual footnote at the bottom of the column in which it is cited. Do not put footnotes in the reference list.

References can be in several styles. The information provided should in any case be complete to identify the reference unambiguously. If space allows, use complete reference, i.e., give all authors’ names and paper titles and preferably avoid use “et al” unless there are six authors or more. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [4]. Papers that have been accepted for publication should be cited as “in press” [5]. Capitalize only the first word in paper title, except for proper nouns and element symbols.

For papers published in translated journals, please give the English citation first, followed by the original foreign-language citations [6]. A coincide style could help you save room for more figures or the main text of the paper. Whenever possible add the paper DOI for easy retrieval [7].

#### B. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used. Acronyms such as MOSFET, ac and dc do not have to be defined. Redefine acronyms when first used in the text, even if they have been defined in the abstract.

#### C. Equations

Number equations consecutively with equation numbers in parentheses flush with the right margin, as in (1). To make your equations more compact, you may use the solidus (/), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Use parentheses to avoid ambiguities in denominators. Punctuate equations with commas or periods when they are part of a sentence, like this,

$$\int_0^{r_2} F(r, \phi) dr d\phi = \left[ \sigma_2 / (2\mu_0) \right] \cdot \int_0^{\infty} \exp(-\lambda |z_j - z_i|) \lambda^{-1} J_1(\lambda r_2) J_0(\lambda r_i) d\lambda. \quad (1)$$

Be sure that all the symbols in your equation have been defined before the equation appears or immediately following. When you refer to equations in the text, refer to (1). Do not use “Eq. (1)” or “Equation (1)” except at the beginning of a sentence: “Equation (1) is used...”

#### D. Other Recommendations

If possible use one space between sections, and between text and tables or figures, to manipulate the column length. Use two spaces after periods at the end of sentences (full stops).

**Acknowledgements** to people, funding agencies, projects can appear at the end of the text or immediately before the references.

### References

- [1] G. Eason, B. Noble, and I. N. Sneddon, “On certain integrals of Lipschitz-Hankel type involving products of Bessel functions,” *Phil. Trans. Roy. Soc. London*, vol. A247, pp. 529-551, April 1955.
- [2] J. Clerk Maxwell, *A Treatise on Electricity and Magnetism*, 3rd ed., Vol. 2, Oxford: Clarendon Press, 1892, pp. 68-73.
- [3] I. S. Jacobs and C. P. Bean, “Fine particles, thin films and exchange anisotropy,” in *Magnetism*, Vol. III, G. T. Rado and H. Suhl, Eds., New York: Academic Press, 1963, pp. 271-350.
- [4] M. Smith, “Title of paper optional here,” unpublished
- [5] K. Rose, “Title of paper with only first word capitalized,” in press.
- [6] Y. Yorozu, M. Hirano, K. Oka, and Y. Tanigawa, “Electron spectroscopy studies on magneto-optical media and plastic substrate interface,” *IEEE Transl. J. Magn. Japan*, vol. 2, pp. 740-741, August 1987 [*Digests 9th Annual conf. Magn. Japan*, p. 3012, 1982].
- [7] S.-Y. Wu et al., *IEDM Tech. Dig.*, pp. 48-51, 2014. DOI: 10.1109/TED.2016.2549554

An alternative, often used format for references is as follows:

- [1] J. Mitard, *IEDM*, 2010, pp.249. [2] P. Hashemi, *IEDM*, 2014, pp.402. [3] P. Hashemi, *VLSI*, 2015, pp. T16-T17. [4] C.-T. Chang, *IEDM*, 2015, pp.584. [5] S. K. Wang, *JAP*, 108, 054104, 2010. [6] S. Takagi, *IEEE TED*, 41, 2363, 1994. [7] R. Xie, *IEDM*, 2008, pp.393. [8] R. Zhang, *IEEE TED*, 60, 927, 2013. [9] C. H. Lee, *VLSI*, 2014, pp.1-2.