INSTRUCTIONS FOR PRODUCING A CAMERA-READY MANUSCRIPT USING WORLD SCIENTIFIC PUBLISHING STYLE FILES

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This is where the abstract should be placed. It should consist of one paragraph and give a concise summary of the material in the article below. Replace the title, authors, and addresses within the curly brackets with your own title, authors, and addresses; please use capital letters for the title and the authors. You may have as many authors and addresses as you wish. It's preferable not to use footnotes in the abstract or the title; the acknowledgments for funding bodies etc. are placed in a separate section at the end of the text.

1 Guidelines

1.1 Producing the Hard Copy

The hard copy may be printed using the advice given in the file *splread.1st*, which is repeated in this section. You should have three files in total.[a]
splread.1st — the preliminary guide.
sprocl.sty — the style file that provides the higher level latex commands for the proceedings. Don't change these parameters.
sprocl.tex — the main text. You can delete our sample text and replace it with your own contribution to the volume, however we recommend keeping an initial version of the file for reference. Strip off any mail headers and then latex the tex file. The command for latexing is latex sprocl, do this twice to sort out the cross-referencing.

If you wish to use some other form of word-processor, some guidelines are given in Sec. 1.2 below. These files will work with standard latex 2.09. If there

[a]You can obtain these files from our WWW pages at:
http://www.wspc.co.uk/wspc/Styles/procs/procsread1st.html
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is an abbreviation defined in the new definitions at the top of the file *sprocl.tex* that conflicts with one of your own macros, then delete the appropriate command and revert to longhand. Failing that, please consult your local texpert to check for other conflicting macros that may be unique to your computer system. Page numbers are included at the bottom of the page for your guidance. Do not worry about the final pagination of the volume which will be done after you submit the paper.

1.2 Using Other Word-Processing Packages

If you want to use some other form of word-processor to construct your output, and are using the final hard copy version of these files as guidelines; then please follow the style given here for headings, table and figure captions, and the footnote and citation marks. For this size of volume, the final page dimensions will be 8.5 by 6 inches (21.5 by 15.25 cm) however you should submit the copy on standard A4 paper. The text area, which includes the page numbers should be 7 by 4.7 inches (17.75 by 12 cm). The text should be in 10pt roman for the title, section heads and the body of the text, and 9pt for the authors' names and addresses. Please use capitals for the title and authors, bold face for the title and headings, and italics for the subheadings. The abstract, footnotes, figure and table captions should be in 8pt.

It's also important to reproduce the spacing of the text and headings as shown here.Text should be slightly more than single-spaced; use a baselineskip (which is the average distance from the base of one line of text to the base of an adjacent line) of 13 pts and 10 pts for footnotes. All headings should be separated from the text preceding it by a baselineskip of about 26 pts and use a baselineskip of about 18 pts for the following text.

Paragraphs should have a first line indented by about 0.25in (6mm) except where the paragraph is preceded by a heading and the abstract should be indented on both sides by 0.25in (6mm) from the main body of the text.

1.3 Headings and Text and Equations

Please preserve the style of the headings, text fonts and line spacing to provide a uniform style for the proceedings volume.

Equations should be centered and numbered consecutively, as in Eq. (1), and the *eqnarray* environment may be used to split equations into several lines, for example in Eq. (3), or to align several equations. An alternative method is given in Eq. (2) for long sets of equations where only one referencing equation number is wanted.

Table 1: Experimental Data bearing on $\Gamma(K \to \pi\pi\gamma)$ for the K_S^0, K_L^0 and K^- mesons.

	$\Gamma(\pi^-\pi^0)\ s^{-1}$	$\Gamma(\pi^-\pi^0\gamma)\ s^{-1}$	
Process for Decay			
K^-	1.711×10^7	2.22×10^4 (DE 1.46×10^3)	No (IB)-E1 interference seen but data shows excess events relative to IB over $E_\gamma^* = 80$ to 100 MeV

In latex, it is simplest to give the equation a label, as in Eq. (1) where we have used $\backslash label\{eq{:}murnf\}$ to identify the equation. You can then use the reference $\backslash ref\{eq{:}murnf\}$ when citing the equation in the text which will avoid the need to manually renumber equations due to later changes. (Look at the source file for some examples of this.)

The same method can be used for referring to sections and subsections.

1.4 Tables

The tables are designed to have a uniform style throughout the proceedings volume. It doesn't matter how you choose to place the inner lines of the table, but we would prefer the border lines to be of the style shown in Table 1. The top and bottom horizontal lines should be single (using $\backslash hline$), and there should be single vertical lines on the perimeter, (using $\backslash begin\{tabular\}\{|...|\}$). For the inner lines of the table, it looks better if they are kept to a minimum. We've chosen a more complicated example purely as an illustration of what is possible.

The caption heading for a table should be placed at the top of the table.

1.5 Figures

If you wish to 'embed' a postscript figure in the file, then remove the % mark from the declaration of the postscript figure within the figure description and change the filename to an appropriate one. Also remove the comment mark from the *input psfig* command at the top of the file. You may need to play around with this as different computer systems appear to use different commands.

Next adjust the scaling of the figure until it's correctly positioned, and remove the declarations of the lines and any anomalous spacing.

If you prefer to use some other method then it's very important to leave the correct amount of vertical space in the figure declaration to accomodate your figure (remove the lines and change the vspace in the example.) Send the hard copy figures on separate pages with clear instructions to match them to the correct space in the final hard copy text. Please ensure the final hard copy figure is correctly scaled to fit the space available (this ensures the figure is legible.)

The caption heading for a figure should be placed below the figure.

1.6 Limitations on the Placement of Tables, Equations and Figures

Very large figures and tables should be placed on a page by themselves. One can use the instruction $\backslash begin\{figure\}[p]$ or $\backslash begin\{table\}[p]$ to position these, and they will appear on a separate page devoted to figures and tables. We would recommend making any necessary adjustments to the layout of the figures and tables only in the final draft. It is also simplest to sort out line and page breaks in the last stages.

1.7 Acknowledgments, Appendices, Footnotes and the Bibliography

If you wish to have acknowledgments to funding bodies etc., these may be placed in a separate section at the end of the text, before the Appendices. This should not be numbered so use $\backslash section*\{Acknowledgments\}$.

It's preferable to have no appendices in a brief article, but if more than one is necessary then simply copy the $\backslash section*\{Appendix\}$ heading and type in Appendix A, Appendix B etc. between the brackets.

Footnotes are denoted by a letter superscript in the text,[b] and references are denoted by a number superscript. We have used $\backslash bibitem$ to produce the bibliography. Citations in the text use the labels defined in the bibitem declaration, for example, the first paper by Jarlskog [1] is cited using the command $\backslash cite\{ja\}$.

If you more commonly use the method of square brackets in the line of text for citation than the superscript method, please note that you need to adjust the punctuation so that the citation command appears after the punctuation mark.

1.8 Final Manuscript

The final hard copy that you send must be absolutely clean and unfolded. It will be printed directly without any further editing. Use a printer that has

[b] Just like this one.

a good resolution (300 dots per inch or higher). There should not be any corrections made on the printed pages, nor should adhesive tape cover any lettering. Photocopies are not acceptable.

The manuscript will not be reduced or enlarged when filmed so please ensure that indices and other small pieces of text are legible.

2 Sample Text

The following may be (and has been) described as 'dangerously irrelevant' physics. The Lorentz-invariant phase space integral for a general n-body decay from a particle with momentum P and mass M is given by:

$$I((P-k_i)^2, m_i^2, M) = \frac{1}{(2\pi)^5} \int \frac{d^3k_i}{2\omega_i} \delta^4(P-k_i). \tag{1}$$

The only experiment on $K^{\pm} \to \pi^{\pm}\pi^0\gamma$ since 1976 is that of Bolotov *et al.*[3] There are two necessary conditions required for any acceptable parametrization of the quark mixing matrix. The first is that the matrix must be unitary, and the second is that it should contain a CP violating phase δ. In Sec. 1.2 the connection between invariants (of form similar to J) and unitarity relations will be examined further for the more general $n \times n$ case. The reason is that such a matrix is not a faithful representation of the group, i.e. it does not cover all of the parameter space available.

$$\begin{aligned}
\mathbf{K} = & \; Im[V_{j,\alpha} V_{j,\alpha+1}{}^* V_{j+1,\alpha}{}^* V_{j+1,\alpha+1}] \\
& + Im[V_{k,\alpha+2} V_{k,\alpha+3}{}^* V_{k+1,\alpha+2}{}^* V_{k+1,\alpha+3}] \\
& + Im[V_{j+2,\beta} V_{j+2,\beta+1}{}^* V_{j+3,\beta}{}^* V_{j+3,\beta+1}] \\
& + Im[V_{k+2,\beta+2} V_{k+2,\beta+3}{}^* V_{k+3,\beta+2}{}^* V_{k+3,\beta+3}] \\
\\
\mathbf{M} = & \; Im[V_{j,\alpha}{}^* V_{j,\alpha+1} V_{j+1,\alpha} V_{j+1,\alpha+1}{}^*] \\
& + Im[V_{k,\alpha+2} V_{k,\alpha+3}{}^* V_{k+1,\alpha+2}{}^* V_{k+1,\alpha+3}] \\
& + Im[V_{j+2,\beta}{}^* V_{j+2,\beta+1} V_{j+3,\beta} V_{j+3,\beta+1}{}^*] \\
& + Im[V_{k+2,\beta+2} V_{k+2,\beta+3}{}^* V_{k+3,\beta+2}{}^* V_{k+3,\beta+3}],
\end{aligned} \tag{2}$$

where $k = j$ or $j+1$ and $\beta = \alpha$ or $\alpha+1$, but if $k = j+1$, then $\beta \neq \alpha+1$ and similarly, if $\beta = \alpha+1$ then $k \neq j+1$.[c] There are only 162 quark mixing matrices using these parameters which are to first order in the phase variable $e^{i\delta}$ as is the case for the Jarlskog parametrizations, and for which J is not identically zero. It should be noted that these are physically identical and form just one true parametrization.

[c] An example of a matrix which has elements containing the phase variable $e^{i\delta}$ to second order, i.e. elements with a phase variable $e^{2i\delta}$ is given at the end of this section.

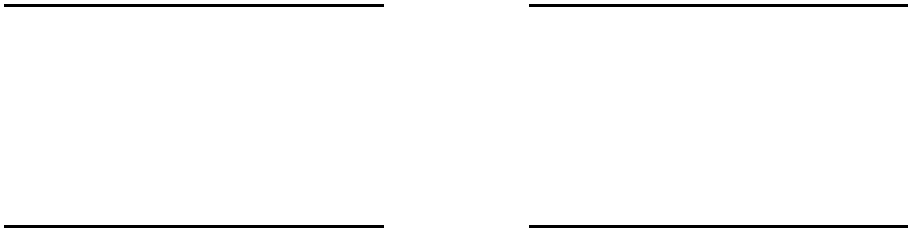

Figure 1: A generalized cactus tree: the confluent transfer-matrix S transforms the state function $f(x)$ and $f(z)$ into $f(x)$.

$$\begin{aligned} T = & \, Im[V_{11} {V_{12}}^* {V_{21}}^* V_{22}] \\ & + Im[V_{12} {V_{13}}^* V_{22}^* V_{23}] \\ & - Im[V_{33} {V_{31}}^* {V_{13}}^* V_{11}]. \end{aligned} \tag{3}$$

Acknowledgments

This is where one places acknowledgments for funding bodies etc. Note that there are no section numbers for the Acknowledgments, Appendix or References.

Appendix

We can insert an appendix here and place equations so that they are given numbers such as Eq. (4).

$$x = y. \tag{4}$$

References

1. C Jarlskog in *CP Violation*, ed. C Jarlskog (World Scientific, Singapore, 1988).
2. L. Maiani, *Phys. Lett.* B **62**, 183 (1976).
3. J.D. Bjorken and I. Dunietz, *Phys. Rev.* D **36**, 2109 (1987).
4. C.D. Buchanan *et al*, *Phys. Rev.* D **45**, 4088 (1992).