CONFERENCE SECTION

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with Forced Linebreak

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Abstract

An article usually includes an abstract, a concise summary of the work covered at length in the main body of the article.

1. INTRODUCTION

Your text comes here.

2. FIRST-LEVEL HEADING:
THE LINE BREAK WAS FORCED via \\

This sample document demonstrates proper use of REVTeX 4.2 (and LaTeX 2_ε) in mansucripts prepared for submission to MUPB. Further information can be found in the REVTeX 4.2 documentation included in the distribution or available at http://journals.aps.org/revtex/.

When commands are referred to in this example file, they are always shown with their required arguments, using normal TeX format. In this format, #1, #2, etc. stand for required author-supplied arguments to commands. For example, in \section{#1} the #1 stands for the title text of the author's section heading, and in \title{#1} the #1 stands for the title text of the paper.

Line breaks in section headings at all levels can be introduced using \\. A blank input line tells TeX that the paragraph has ended. Note that top-level section headings are automatically uppercased. If a specific letter or word should appear in lowercase instead, you must escape it using \lowercase{#1} as in the word "via" above.

2.1. Second-level heading: Formatting

This file may be formatted in either the `preprint` or `reprint` style. `reprint` format mimics final journal output. Either format may be used for submission purposes. `letter` sized paper should be used when submitting to MUPB.

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2.1.1. Wide text (A level-3 head)

The `widetext` environment will make the text the width of the full page, as on page 6. (Note the use the `\pageref{#1}` command to refer to the page number.)

2.1.1.1. Note (Fourth-level head is run in)   The width-changing commands only take effect in two-column formatting. There is no effect if text is in a single column.

2.2. Citations and References

A citation in text uses the command `\cite{#1}` and refers to an entry in the bibliography. An entry in the bibliography is a reference to another document.

2.2.1. Citations

2.2.1.1. Syntax   The argument of `\cite` may be a single *key*, or may consist of a comma-separated list of keys. The citation *key* may contain letters, numbers, the dash (-) character, or the period (.) character.

2.2.1.2. The options of the cite command itself   Please note that optional arguments to the *key* change the reference in the bibliography, not the citation in the body of the document.

2.2.2. Example citations

By default, citations are numerical[1].

By default, the `natbib` package automatically sorts your citations into numerical order and "compresses" runs of three or more consecutive numerical citations. To illustrate, we cite several together [1–4], and once again in different order (Refs. [1–4]).

2.2.3. References

A reference in the bibliography is specified by a `\bibitem{#1}` command with the same argument as the `\cite{#1}` command. You will have to create the `thebibiliography` environment and its `\bibitem` commands by hand.

2.3. Footnotes

Footnotes, produced using the `\footnote{#1}` command, usually integrated into the bibliography alongside the other entries. Numerical citation styles do this[1]; author-year citation styles place the footnote at the bottom of the text column. Note: due to the method used to place footnotes in the bibliography, *you must re-run BibTEX every time you change any of your document's footnotes.*

3. MATH AND EQUATIONS

Inline math may be typeset using the `$` delimiters. Bold math symbols may be achieved using the `bm` package and the `\bm{#1}` command it supplies. For instance, a bold α can be typeset as `$\bm{\alpha}$` giving $\boldsymbol{\alpha}$. Fraktur and Blackboard (or open face or double struck) characters should be typeset using the `\mathfrak{#1}` and `\mathbb{#1}` commands respectively. Both are supplied by the `amssymb` package. For example, `$\mathbb{R}$` gives $\mathbb{R}$ and `$\mathfrak{G}$` gives $\mathfrak{G}$

In LATEX there are many different ways to display equations, and a few preferred ways are noted below. Displayed math will center by default. Use the class option `fleqn` to flush equations left.

Below we have numbered single-line equations; this is the most common type of equation:

$$\chi_+(p) \lesssim [2|\mathbf{p}|(|\mathbf{p}| + p_z)]^{-1/2} \begin{pmatrix} |\mathbf{p}| + p_z \\ px + ip_y \end{pmatrix}, \tag{1}$$

$$\left\{ 11234567890abc123\alpha\beta\gamma\delta1234556\alpha\beta\frac{1\sum_b^a}{A^2} \right\}. \tag{2}$$

Note the open one in Eq. (2).

Not all numbered equations will fit within a narrow column this way. The equation number will move down automatically if it cannot fit on the same line with a one-line equation:

$$\left\{ ab12345678abc123456abcdef\alpha\beta\gamma\delta1234556\alpha\beta\frac{1\sum_b^a}{A^2} \right\}. \tag{3}$$

When the `\label{#1}` command is used [cf. input for Eq. (2)], the equation can be referred to in text without knowing the equation number that TEX will assign to it. Just use `\ref{#1}`, where #1 is the same name that used in the `\label{#1}` command.

Unnumbered single-line equations can be typeset using the `\[, \]` format:

$$g^+g^+ \to g^+g^+g^+g^+ \dots , \quad q^+q^+ \to q^+g^+g^+ \dots .$$

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[1] Automatically placing footnotes into the bibliography requires using BibTeX to compile the bibliography.

3.1. Multiline equations

Multiline equations are obtained by using the `eqnarray` environment. Use the `\nonumber` command at the end of each line to avoid assigning a number:

$$\mathcal{M} = i g_Z^2 (4E_1 E_2)^{1/2} (l_i^2)^{-1} \delta_{\sigma_1, -\sigma_2} (g_{\sigma_2}^e)^2 \chi_{-\sigma_2}(p_2)$$
$$\times [\epsilon_j l_i \epsilon_i]_{\sigma_1} \chi_{\sigma_1}(p_1), \tag{4}$$

$$\sum |M_g^{\text{viol}}|^2 = g_S^{2n-4}(Q^2) \ N^{n-2}(N^2 - 1)$$
$$\times \left(\sum_{i<j} \right) \sum_{\text{perm}} \frac{1}{S_{12}} \frac{1}{S_{12}} \sum_\tau c_\tau^f \ . \tag{5}$$

Note: Do not use `\label{#1}` on a line of a multiline equation if `\nonumber` is also used on that line. Incorrect cross-referencing will result. Notice the use `\text{#1}` for using a Roman font within a math environment.

To set a multiline equation without *any* equation numbers, use the `\begin{eqnarray*}`, `\end{eqnarray*}` format:

$$\sum |M_g^{\text{viol}}|^2 = g_S^{2n-4}(Q^2) \ N^{n-2}(N^2 - 1)$$
$$\times \left(\sum_{i<j} \right) \left(\sum_{\text{perm}} \frac{1}{S_{12} S_{23} S_{n1}} \right) \frac{1}{S_{12}} \ .$$

To obtain numbers not normally produced by the automatic numbering, use the `\tag{#1}` command, where `#1` is the desired equation number. For example, to get an equation number of (2.6′),

$$g^+ g^+ \to g^+ g^+ g^+ g^+ \dots \ , \quad q^+ q^+ \to q^+ g^+ g^+ \dots \ . \tag{2.6′}$$

3.1.0.1. A few notes on `tags` `\tag{#1}` requires the `amsmath` package. Place the `\tag{#1}` command before the `\label{#1}`, if any. The numbering produced by `\tag{#1}` *does not affect* the automatic numbering in REVTEX; therefore, the number must be known ahead of time, and it must be manually adjusted if other equations are added. `\tag{#1}` works with both single-line and multiline equations. `\tag{#1}` should only be used in exceptional cases—do not use it to number many equations in your paper. Please note that this feature of the `amsmath` package is *not* compatible with the `hyperref` (6.77u) package.

Enclosing display math within `\begin{subequations}` and `\end{subequations}` will produce a set of equations that are labeled with letters, as shown in Eqs. (6b) and (6a) below. You may include any number of single-line and multiline equations, although it is probably not a

good idea to follow one display math directly after another.

$$\mathcal{M} = ig_Z^2 (4E_1 E_2)^{1/2} (l_i^2)^{-1} (g_{\sigma_2}^e)^2 \chi_{-\sigma_2}(p_2)$$

$$\times [\epsilon_i]_{\sigma_1} \chi_{\sigma_1}(p_1). \tag{6a}$$

$$\left\{ abc123456abcdef\alpha\beta\gamma\delta1234556\alpha\beta \frac{1\sum_b^a}{A^2} \right\}, \tag{6b}$$

Giving a `\label{#1}` command directly after the `\begin{subequations}`, allows you to reference all the equations in the `subequations` environment. For example, the equations in the preceding subequations environment were Eqs. (6).

3.1.1. Wide equations

The equation that follows is set in a wide format, i.e., it spans the full page. The wide format is reserved for long equations that cannot easily be set in a single column:

$$\mathcal{R}^{(d)} = g_{\sigma_2}^e \left(\frac{[\Gamma^Z(3,21)]_{\sigma_1}}{Q_{12}^2 - M_W^2} + \frac{[\Gamma^Z(13,2)]_{\sigma_1}}{Q_{13}^2 - M_W^2} \right) + x_W Q_e \left(\frac{[\Gamma^\gamma(3,21)]_{\sigma_1}}{Q_{12}^2 - M_W^2} + \frac{[\Gamma^\gamma(13,2)]_{\sigma_1}}{Q_{13}^2 - M_W^2} \right). \tag{7}$$

This is typed to show how the output appears in wide format. (Incidentally, since there is no blank line between the `equation` environment above and the start of this paragraph, this paragraph is not indented.)

4. CROSS-REFERENCING

REVTeX will automatically number such things as sections, footnotes, equations, figure captions, and table captions. In order to reference them in text, use the `\label{#1}` and `\ref{#1}` commands. To reference a particular page, use the `\pageref{#1}` command.

The `\label{#1}` should appear within the section heading, within the footnote text, within the equation, or within the table or figure caption. The `\ref{#1}` command is used in text at the point where the reference is to be displayed. Some examples: Section 2 on page 2, Table 1 and Fig. 1.

5. FLOATS: FIGURES, TABLES, VIDEOS, ETC.

Figures and tables are usually allowed to "float", which means that their placement is determined by LaTeX, while the document is being typeset.

Table 1. Assessment of the contribution of positron–emitting radionuclide activity to blood activation for different irradiation fractions on a 20 MeV linear electron accelerator

Radionuclide	Activity, Bq/mL of blood for irradiation time:	
	1 minute	3 minutes
^{11}C	13	37
^{13}N	58	1.6×10^2
^{15}O	9.0×10^2	2.0×103
^{30}P	12	27
^{34m}Cl	9	26.5
^{38}K	40	1.1×10^2

Use the `figure` environment for a figure, the `table` environment for a table. In each case, use the `\caption` command within to give the text of the figure or table caption along with the `\label` command to provide a key for referring to this figure or table. The typical content of a figure is an image of some kind; that of a table is an alignment.

Insert an image using either the `graphics` or `graphix` packages, which define the `\includegraphics{#1` command. (The two packages differ in respect of the optional arguments used to specify the orientation, scaling, and translation of the image.) To create an alignment, use the `tabular` environment.

The best place to locate the `figure` or `table` environment is immediately following its first reference in text; this sample document illustrates this practice for Fig. 1, which shows a figure that is small enough to fit in a single column.

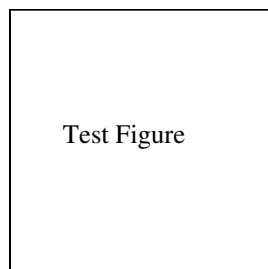Fig. 2 has content that is too wide for a single column, so the `figure*` environment has been

Test Figure

Figure 1. A figure caption. The figure captions are automatically numbered.

Figure 2. Use the figure* environment to get a wide figure that spans the page in `twocolumn` formatting.

used.

The `\setfloatlink` command causes the title of the video to be a hyperlink to the indicated URL; it may be used with any environment that takes the `\caption` command. The `\href` command has the same significance as it does in the context of the `hyperref` package: the second argument is a piece of text to be typeset in your document; the first is its hyperlink, a URL.

MUPB style requires that the initial citation of figures or tables be in numerical order in text, so don't cite Fig. 2 until Fig. 1 has been cited.

ACKNOWLEDGMENTS

We wish to acknowledge . . . .

Appendix A: Appendixes

To start the appendixes, use the `\appendix` command. This signals that all following section commands refer to appendixes instead of regular sections. Therefore, the `\appendix` command should be used only once—to setup the section commands to act as appendixes. Thereafter normal section commands are used. The heading for a section can be left empty. For example,

```
\appendix
\section{}
```

will produce an appendix heading that says "APPENDIX A" and

```
\appendix
\section{Background}
```

will produce an appendix heading that says "APPENDIX A: BACKGROUND" (note that the colon is set automatically).

If there is only one appendix, then the letter "A" should not appear. This is suppressed by using the star version of the appendix command (`\appendix*` in the place of `\appendix`).

Appendix B: A little more on appendixes

Observe that this appendix was started by using

`\section{A little more on appendixes}`

Note the equation number in an appendix:

$$E = mc^2. \tag{B1}$$

1. A subsection in an appendix

You can use a subsection or subsubsection in an appendix. Note the numbering: we are now in Appendix 1.

Note the equation numbers in this appendix, produced with the subequations environment:

$$E = mc, \tag{B2a}$$

$$E = mc^2, \tag{B2b}$$

$$E \gtrsim mc^3. \tag{B2c}$$

They turn out to be Eqs. (B2a), (B2b), and (B2c).

CONFLICT OF INTEREST

Several authors:

The authors of this work declare that they have no conflicts of interest.

One author, pronoun she:

The author of this work declares that she has no conflicts of interest.

One author, pronoun he:

The author of this work declares that he has no conflicts of interest.

Please, instead of complex article identifiers `\bibitem{Plehn:2022ftl}` simply indicate continuous numbering `\bibitem{1}`, `\bibitem{2}`, etc.

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[1] A. Gatti, E. Brambilla, M. Bache, and L. A. Lugiato, in *Quantum Imaging*, Ed. by M. I. Kolobov (Springer, New York, 2007), p. 79. https://doi.org/10.1007/0-387-33988-4_5

[2] O. V. Bogdankevich and F. A. Nikolaev, *Bremsstrahlung Beam (Features of the Technique of Physical Research on Electron Accelerators)* (Atomizdat, Moscow, 1964). (In Russian).

[3] L. Z. Dzhilavyan, "Photonuclear research in the field of giant resonances in forward and backward reaction", Doctoral Dissertation in Physics and Mathematics (Inst. for Nuclear Research, Russ. Acad. Sci., 2017).

[4] T. Baghdasaryan, K. Vanmol, H. Thienpont, F. Berghmans, T. Geernaert, and J. Van Erps, J. Phys.: Photonics **3**, 045001 (2021). https://doi.org/10.1088/2515-7647/ac1b7d