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def burl@boty HyperBorder add /burl@boty exch def burl@topy HyperBor-
der sub /burl@topy exch def def /BU.B /Rect[burl@stx burl@boty burl@endx
burl@topy] def /eop where begin /@ldeopburl /eop load def /eop SDict begin
BU.FL end @ldeopburl def end /eop SDict begin BU.FL end def ifelse

```

Article Title

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Abstract

The abstract serves both as a general introduction to the topic and as a brief, non-technical summary of the main results and their implications. Authors are advised to check the author instructions for the journal they are submitting to for word limits and if structural elements like subheadings, citations, or equations are permitted.

Keywords: keyword1, Keyword2, Keyword3, Keyword4

1 Introduction

The Introduction section, of referenced text [?] expands on the background of the work (some overlap with the Abstract is acceptable). The introduction should not include subheadings.

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047 please also be aware that some stylistic choices are not supported in full text XML
048 (publication version), including coloured font. These will not be replicated in the
049 typeset article if it is accepted.
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051 052 053 **2 Results** 054

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059 060 061 **3 This is an example for first level head—section head** 062

063 **3.1 This is an example for second level head—subsection head** 064

065 **3.1.1 This is an example for third level head—subsubsection head** 066

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069 body text. Sample body text. Sample body text. Sample body text.
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071 072 073 **4 Equations** 074

075 Equations in L^AT_EX can either be inline or on-a-line by itself (“display equations”). For
076 inline equations use the \dots commands. E.g.: The equation $H\psi = E\psi$ is written
077 via the command $\text{\$H \psi = E \psi\$}$.
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079 For display equations (with auto generated equation numbers) one can use the
080 equation or align environments:
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$$082 \quad \|\tilde{X}(k)\|^2 \leq \frac{\sum_{i=1}^p \|\tilde{Y}_i(k)\|^2 + \sum_{j=1}^q \|\tilde{Z}_j(k)\|^2}{p+q}. \quad (1)$$

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where,

$$D_\mu = \partial_\mu - ig \frac{\lambda^a}{2} A_\mu^a$$

$$F_{\mu\nu}^a = \partial_\mu A_\nu^a - \partial_\nu A_\mu^a + gf^{abc} A_\mu^b A_\nu^c \quad (2)$$

Notice the use of `\nonumber` in the align environment at the end of each line, except the last, so as not to produce equation numbers on lines where no equation numbers are required. The `\label{}` command should only be used at the last line of an align environment where `\nonumber` is not used.

$$Y_\infty = \left(\frac{m}{\text{GeV}} \right)^{-3} \left[1 + \frac{3 \ln(m/\text{GeV})}{15} + \frac{\ln(c_2/5)}{15} \right] \quad (3)$$

The class file also supports the use of `\mathbb{}`, `\mathscr{}` and `\mathcal{}` commands. As such `\mathbb{R}`, `\mathscr{R}` and `\mathcal{R}` produces \mathbb{R} , \mathscr{R} and \mathcal{R} respectively (refer Subsubsection 3.1.1).

5 Tables

Tables can be inserted via the normal table and tabular environment. To put footnotes inside tables you should use `\footnotetext[]{\dots}` tag. The footnote appears just below the table itself (refer Tables 1 and 2). For the corresponding footnote mark use `\footnotemark[...]`

The input format for the above table is as follows:

```
\begin{table}[<placement-specifier>]
\caption{<table-caption>}\label{<table-label>}%
\begin{tabular}{@{}l l l l @{}}
\toprule
Column 1 & Column 2 & Column 3 & Column 4 \\
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Table 1 Caption text

Column 1	Column 2	Column 3	Column 4
row 1	data 1	data 2	data 3
row 2	data 4	data 5 ¹	data 6
row 3	data 7	data 8	data 9 ²

Source: This is an example of table footnote. This is an example of table footnote.

¹Example for a first table footnote. This is an example of table footnote.

²Example for a second table footnote. This is an example of table footnote.

```
\midrule
row 1 & data 1 & data 2 & data 3 \\
row 2 & data 4 & data 5\footnotemark[1] & data 6 \\
row 3 & data 7 & data 8 & data 9\footnotemark[2]\\
\botrule
\end{tabular}
\footnotetext{Source: This is an example of table footnote.
This is an example of table footnote.}
\footnotetext[1]{Example for a first table footnote.
This is an example of table footnote.}
\footnotetext[2]{Example for a second table footnote.
This is an example of table footnote.}
\end{table}
```

In case of double column layout, tables which do not fit in single column width should be set to full text width. For this, you need to use `\begin{table*}` ... `\end{table*}` instead of `\begin{table}` ... `\end{table}` environment. Lengthy tables which do not fit in textwidth should be set as rotated table. For this, you need to use `\begin{sidewaystable}` ... `\end{sidewaystable}` instead of `\begin{table*}`

Table 2 Example of a lengthy table which is set to full textwidth

Project	Element 1 ¹			Element 2 ²		
	Energy	σ_{calc}	σ_{expt}	Energy	σ_{calc}	σ_{expt}
Element 3	990 A	1168	1547 ± 12	780 A	1166	1239 ± 100
Element 4	500 A	961	922 ± 10	900 A	1268	1092 ± 40

Note: This is an example of table footnote. This is an example of table footnote this is an example of table footnote this is an example of table footnote this is an example of table footnote.

¹Example for a first table footnote.

²Example for a second table footnote.

... `\end{table*}` environment. This environment puts tables rotated to single column width. For tables rotated to double column width, use `\begin{sidewaystable*}` ... `\end{sidewaystable*}`.

6 Figures

As per the \LaTeX standards you need to use eps images for \LaTeX compilation and pdf/jpg/png images for PDF \LaTeX compilation. This is one of the major difference between \LaTeX and PDF \LaTeX . Each image should be from a single input .eps/vector image file. Avoid using subfigures. The command for inserting images for \LaTeX and PDF \LaTeX can be generalized. The package used to insert images in \LaTeX /PDF \LaTeX is the graphicx package. Figures can be inserted via the normal figure environment as shown in the below example:

```
\begin{figure}[<placement-specifier>]
\centering
\includegraphics{<eps-file>}
\caption{<figure-caption>}\label{<figure-label>}
\end{figure}
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Table 3 Tables which are too long to fit, should be written using the “sidewaystable” environment as shown here

Projectile	Element 1 ¹			Element ²		
	Energy	σ_{calc}	σ_{expt}	Energy	σ_{calc}	σ_{expt}
Element 3	990 A	1168	1547 \pm 12	780 A	1166	1239 \pm 100
Element 4	500 A	961	922 \pm 10	900 A	1268	1092 \pm 40
Element 5	990 A	1168	1547 \pm 12	780 A	1166	1239 \pm 100
Element 6	500 A	961	922 \pm 10	900 A	1268	1092 \pm 40

Note: This is an example of table footnote this is an example of table footnote this is an example of table footnote
this is an example of table footnote.

¹This is an example of table footnote.



Fig. 1 This is a widefig. This is an example of long caption this is an example of long caption this is an example of long caption this is an example of long caption

In case of double column layout, the above format puts figure captions/images to single column width. To get spanned images, we need to provide `\begin{figure*}` ... `\end{figure*}`.

For sample purpose, we have included the width of images in the optional argument of `\includegraphics` tag. Please ignore this.

7 Algorithms, Program codes and Listings

Packages `algorithm`, `algorithmicx` and `algpseudocode` are used for setting algorithms in \LaTeX using the format:

```
\begin{algorithm}
\caption{<alg-caption>}\label{<alg-label>}
\begin{algorithmic}[1]
. . .
\end{algorithmic}
\end{algorithm}
```

You may refer above listed package documentations for more details before setting `algorithm` environment. For program codes, the “`verbatim`” package is required and the command to be used is `\begin{verbatim}` ... `\end{verbatim}`.

Similarly, for `listings`, use the `listings` package. `\begin{lstlisting}` ... `\end{lstlisting}` is used to set environments similar to `verbatim` environment. Refer to the `lstlisting` package documentation for more details.

A fast exponentiation procedure:

```

323 begin
324   for  $i := 1$  to 10 step 1 do
325     expt(2,  $i$ );
326     newline() od
327   where
328     proc expt( $x, n$ )  $\equiv$ 
329        $z := 1$ ;
330       do if  $n = 0$  then exit fi;
331       do if odd( $n$ ) then exit fi;
332       comment: This is a comment statement;
333        $n := n/2$ ;  $x := x * x$  od;
334       {  $n > 0$  };
335        $n := n - 1$ ;  $z := z * x$  od;
336       print( $z$ ).
337     end
338   end
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Algorithm 1 Calculate  $y = x^n$ 

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349 Require:  $n \geq 0 \vee x \neq 0$ 
350 Ensure:  $y = x^n$ 
351 1:  $y \leftarrow 1$ 
352 2: if  $n < 0$  then
353 3:    $X \leftarrow 1/x$ 
354 4:    $N \leftarrow -n$ 
355 5: else
356 6:    $X \leftarrow x$ 
357 7:    $N \leftarrow n$ 
358 8: end if
359 9: while  $N \neq 0$  do
360 10:   if  $N$  is even then
361 11:      $X \leftarrow X \times X$ 
362 12:      $N \leftarrow N/2$ 
363 13:   else[ $N$  is odd]
364 14:      $y \leftarrow y \times X$ 
365 15:      $N \leftarrow N - 1$ 
366 16:   end if
367 17: end while
368 

---



```



```

for i:=maxint to 0 do
begin
  { do nothing }
end;
Write('Case_insensitive');
Write('Pascal_keywords. ');

```

8 Cross referencing

Environments such as figure, table, equation and align can have a label declared via the `\label{#label}` command. For figures and table environments use the `\label{}` command inside or just below the `\caption{}` command. You can then use the `\ref{#label}` command to cross-reference them. As an example, consider the label declared for Figure 1 which is `\label{fig1}`. To cross-reference it, use the command `Figure \ref{fig1}`, for which it comes up as “Figure 1”.

To reference line numbers in an algorithm, consider the label declared for the line number 2 of Algorithm 1 is `\label{algn2}`. To cross-reference it, use the command `\ref{algn2}` for which it comes up as line 2 of Algorithm 1.

8.1 Details on reference citations

Standard \LaTeX permits only numerical citations. To support both numerical and author-year citations this template uses `natbib` \LaTeX package. For style guidance please refer to the template user manual.

Here is an example for `\cite{...}`: [?]. Another example for `\citep{...}`: [?]. For author-year citation mode, `\cite{...}` prints Jones et al. (1990) and `\citep{...}` prints (Jones et al., 1990).

415 All cited bib entries are printed at the end of this article: [?], [?], [?], [?], [?],
416 [?], [?], [?], [?], [?] and [?].

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420 9 Examples for theorem like environments

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422 For theorem like environments, we require `amsthm` package. There are three types of
423 predefined theorem styles exists—`thmstyleone`, `thmstyletwo` and `thmstylethree`

424

426 <code>thmstyleone</code>	Numbered, theorem head in bold font and theorem 427 text in italic style
429 <code>thmstyletwo</code>	Numbered, theorem head in roman font and theorem 430 text in italic style
432 <code>thmstylethree</code>	Numbered, theorem head in bold font and theorem 433 text in roman style

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435 For mathematics journals, theorem styles can be included as shown in the following
436 examples:

437 **Theorem 1** (Theorem subhead). *Example theorem text. Example theorem text. Exam-*
438 *ple theorem text. Example theorem text. Example theorem text. Example theorem text.*
439 *Example theorem text. Example theorem text. Example theorem text. Example theorem*
440 *text. Example theorem text.*

441 Sample body text. Sample body text. Sample body text. Sample body text. Sample
442 body text. Sample body text. Sample body text. Sample body text.

443 **Proposition 2.** *Example proposition text. Example proposition text. Example propo-*
444 *sition text. Example proposition text. Example proposition text. Example proposition*
445 *text. Example proposition text. Example proposition text. Example proposition text.*
446 *Example proposition text.*

447 Sample body text. Sample body text. Sample body text. Sample body text. Sample
448 body text. Sample body text. Sample body text. Sample body text.

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Example 1. <i>Phasellus adipiscing semper elit. Proin fermentum massa ac quam.</i>	461
<i>Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam</i>	462
<i>ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat</i>	463
<i>magna. Nunc eleifend consequat lorem.</i>	464
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body text. Sample body text. Sample body text. Sample body text.	466
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<i>diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam</i>	468
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<i>magna. Nunc eleifend consequat lorem.</i>	470
Sample body text. Sample body text. Sample body text. Sample body text. Sample	471
body text. Sample body text. Sample body text. Sample body text.	472
Definition 1 (Definition sub head). <i>Example definition text. Example definition text.</i>	473
<i>Example definition text. Example definition text. Example definition text. Example</i>	474
<i>definition text. Example definition text. Example definition text.</i>	475
Additionally a predefined “proof” environment is available: <code>\begin{proof}</code> ...	476
<code>\end{proof}</code> . This prints a “Proof” head in italic font style and the “body text” in	477
roman font style with an open square at the end of each proof environment.	478
<i>Proof.</i> Example for proof text. Example for proof text. Example for proof text. Exam-	479
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proof text. □	487