Template for course Communication in Science

Andreja Sušnik

University of Nova Gorica, Vipavska 13, SI-5000 Nova Gorica

Abstract

Writing in LaTex can be fun!

Keywords: writting, LaTex, paper

1. Referencing figures, equations and tables

Adding figures, equations and tables is done with:

```
\begin{figure}[h]
\centering
\includegraphics[width=0.9\textwidth]{figure-name.png}
\caption{Figure caption.}
\label{f:ref-name}
\end{figure}
```
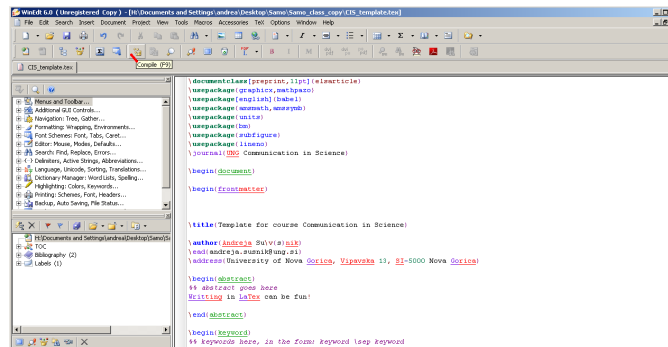

Figure 1: Figure caption.

```
\begin{equation} \label{e:ref-name}
c = a \frac{\diff x}{\diff t} + b \frac{\diff x}{\diff t}
\end{equation}
```

$$c = a\frac{\mathrm{d}x}{\mathrm{d}t} + b\frac{\mathrm{d}x}{\mathrm{d}t} \tag{1}$$

```
\begin{table}
\centering
\caption{Table caption.}
\vspace*{5pt}
\begin{tabular}{|l|c|}
  \hline
  First & $11$ \\
  Second & $15$ \\
  \hline
\end{tabular}
\label{t:ref-name}
\end{table}
```

Table 1: Table caption.

First	11
Second	15

Referencing figures, equations and tables is done with:

```
Fig. \ref{f:ref-name}, Eq. \eqref{e:ref-name}, Tab. \ref{t:ref-name}
```

. . . shown on Fig. 1. . .
. . . from Eq. (1) we are able to. . .
. . . is entered into Tab. 1. . .

2. Equations and units

Equations should always be part of the sentence, thus proper use of commas and full stops should be considered. For example, the Pitagoras' rule is defined as

$$c^2 = a^2 + b^2, \tag{2}$$

where c is the longest and a and b are the shorter sides of a right triangle. We can also define the integral of a function as

$$I = \int_{x_0}^{x_1} f(x)\,\mathrm{d}x. \tag{3}$$

Any units in equations can easily be added by using

```
\unit[1.756]{m~s^{-1}}
```

where first we enter the number we wish to show and then the units. For example, the speed of light is $c_0 = 299\,792\,458\,\mathrm{m\,s^{-1}}$. Just make sure that at the beginning of this (.tex) document, you have a package named **units** defined.

3. Bibliography/References/Citation rules

Bibliography and references are not a normal section/chapter and should be added using:

```
\bibliographystyle{elsarticle-num}
\begin{thebibliography}{99}
\raggedright
\bibitem{citename} Author/Authors, \emph{Title}, Journal (Year).
\end{thebibliography}
```

The bibitem already shows how separate citations should be done and raggedright makes the left align of text (better for citations). The first example (see example1 [1]) shows the correct citation for a one or two author paper. The second example (see example2 [2]) shows the correct citation for a paper with multiple authors. The third example (see example3 [3]) shows the correct citation, when using internet links (if using url instead of texttt, please define the package named **url** at the beginning of this (.tex) document). The url environment automatically breaks a link when at end of line.
References to the biography can then be made with

```
\cite{example1}, \cite{example1,example2,\dots}
```

depending on the number of citations we wish to make at the same time. For example: The first paper describes this [1]. Two of the papers descibe that [1, 2]. All three papers describe that [1, 2, 3].

References

[1] J.L. Rosner, *Low–energy photon production in neutrino neutral–current interactions*, Phys. Rev. D 91, 093001 (2015).

[2] H.B. Hartanto *et al.*, *Higgs boson production in association with top quarks in the POWHEG BOX*, Phys. Rev. D 91, 094003 (2015).

[3] LaTeX short math guide, `http://www.ung.si/~sstanic/teaching/CIS/LaTeX_short-math-guide.pdf`, accessed in May, 2015.