



## Title

Firstname Lastname<sup>\*1</sup>, Firstname Lastname<sup>2</sup>, and Firstname Lastname<sup>1,2</sup>

<sup>1</sup>*Affiliation 1*

<sup>2</sup>*Affiliation 2*

*E-mail: e-mail@e-mail.com*

*\*Corresponding author*

*Received:*

*Accepted:*

## Abstract

A single paragraph of about 200 words maximum. For research articles, abstracts should give a pertinent overview of the work. We strongly encourage authors to use the following style of structured abstracts, but without headings: (1) Background: Place the question addressed in a broad context and highlight the purpose of the study; (2) Methods: Describe briefly the main methods or treatments applied; (3) Results: Summarize the article's main findings; and (4) Conclusion: Indicate the main conclusions or interpretations. The abstract should be an objective representation of the article, it must not contain results which are not presented and substantiated in the main text and should not exaggerate the main conclusions.

**Keywords:** keyword 1; keyword 2; keyword 3.

# 1 Introduction

The template details the sections that can be used in a manuscript. Note that the order and names of article sections are suggestions. The introduction should briefly place the study in a broad context and highlight why it is important. It should define the purpose of the work and its significance. The current state of the research field should be reviewed carefully and key publications cited. Please highlight controversial and diverging hypotheses when necessary. Finally, briefly mention the main aim of the work and highlight the principal conclusions. As far as possible, please keep the introduction comprehensible to scientists outside your particular field of research.

# 2 Related Works

This section should provide a concise literature review on related works. References are indicated by number(s) in square brackets in line with the text. The actual authors can be referred to, but the reference number(s) must always be given. Example: “..... as demonstrated [1,6]. Barnaby and Jones [5] obtained a different result ....”. Citing a a journal paper [1], citing a journal paper without page numbers [7], citing a book reference [2], citing a chapter or a page range in book reference [3], citing a chapter or titled section in an edited book [4], citing a conference proceedings reference [5] and citing a thesis reference [6]. References in the list are sorted alphabetically. Authors are recommended to use the Bibtex file provided in the template to prepare the references. Authors are advised to include DOI for cited items, if available.

# 3 Materials and Methods

Materials and Methods should be described with sufficient details to allow others to replicate and build on published results. Please note that publication of your manuscript implicates that you must make all materials, data, computer code, and protocols associated with the publication available to readers. Please disclose at the submission stage any restrictions on the availability of materials or information. New methods and protocols should be described in detail while well-established methods can be briefly described and appropriately cited.

Research manuscripts reporting large datasets that are deposited in a publicly available database should specify where the data have been deposited and provide the relevant accession numbers. If the accession numbers have not yet been obtained at the time of submission, please state that they will be provided during review. They must be provided prior to publication.

Interventionary studies involving animals or humans, and other studies require ethical approval must list the authority that provided approval and the corresponding ethical approval code.

## 3.1 Formatting of Mathematical Components

Please use `{align}` environment for all mathematical equations. The environments `{equation}` and `{eqnarray}` should be avoided. This is an example of a standalone equation, Equation (1):

Table 1: Error estimation related to the Example 2.

$s = t$	$e(s,t)$	$e(s,t)$	$e(s,t)$
	$m_1 = m_2 = 4$	$m_1 = m_2 = 8$	$m_1 = m_2 = 32$
0	$2.65214 \times 10^{-2}$	$5.36982 \times 10^{-3}$	$2.10963 \times 10^{-5}$
0.1	$2.36541 \times 10^{-2}$	$4.25209 \times 10^{-3}$	$2.60058 \times 10^{-5}$
0.2	$2.12010 \times 10^{-2}$	$1.21405 \times 10^{-3}$	$1.20118 \times 10^{-5}$
0.3	$5.20514 \times 10^{-2}$	$1.98740 \times 10^{-3}$	$2.25124 \times 10^{-4}$
0.4	$4.95022 \times 10^{-2}$	$2.25014 \times 10^{-3}$	$1.02524 \times 10^{-4}$
0.5	$1.25142 \times 10^{-2}$	$2.25140 \times 10^{-3}$	$4.11263 \times 10^{-4}$
0.6	$3.25478 \times 10^{-2}$	$1.25105 \times 10^{-2}$	$1.24502 \times 10^{-4}$
0.7	$1.21540 \times 10^{-2}$	$9.14050 \times 10^{-2}$	$2.41298 \times 10^{-4}$
0.8	$2.55840 \times 10^{-2}$	$7.29825 \times 10^{-2}$	$2.25487 \times 10^{-3}$
0.9	$2.36542 \times 10^{-2}$	$1.25005 \times 10^{-2}$	$5.95015 \times 10^{-3}$

$$y_i^{(\lambda)} = \frac{y_i^\lambda - 1}{\lambda}$$

(1)

This is an example of a piecewise equation, Equation (2):

$$y_i^{(\lambda)} = \begin{cases} y_i^\lambda & \lambda \neq 0 \\ \log y_i & \lambda = 0 \end{cases}$$

(2)

$$T \cdot T^T \simeq \begin{bmatrix} diag(T_{1,1}) & 0_{m_1 m_2 \times m_1 m_2} & 0_{m_1 m_2 \times m_1 m_2} & 0_{m_1 m_2 \times m_1 m_2} \\ 0_{m_1 m_2 \times m_1 m_2} & diag(T_{1,2}) & 0_{m_1 m_2 \times m_1 m_2} & 0_{m_1 m_2 \times m_1 m_2} \\ 0_{m_1 m_2 \times m_1 m_2} & 0_{m_1 m_2 \times m_1 m_2} & diag(T_{2,1}) & 0_{m_1 m_2 \times m_1 m_2} \\ 0_{m_1 m_2 \times m_1 m_2} & 0_{m_1 m_2 \times m_1 m_2} & 0_{m_1 m_2 \times m_1 m_2} & diag(T_{2,2}) \end{bmatrix}$$

(3)

For in-text mathematical notations, the standard math mode operator,  $\$ \dots \$$  can be used such as  $\bar{g}_Y = (\prod_{i=1}^n y_i)^{\frac{1}{n}}$

Theorem-type environments (including propositions, lemmas, corollaries etc.) can be formatted as follows:

**Theorem 3.1.** *Example text of a theorem.*

**Corollary 3.1.** *Example text of a corollary.*

**Lemma 3.1.** *Example text of a lemma.*

**Proposition 3.1.** *Example text of a proposition.*

**Definition 3.1.** *Example text of a definition.*

**Remark 3.1.** *Example text of a remark.*

**Claim 3.1.** *Example text of a claim.*

**Conjecture 3.1.** *Example text of a conjecture.*

The text continues here. Proofs must be formatted as follows:

*Proof.* Example text of a proof. □

The text continues here.

## 4 Results

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation as well as the experimental conclusions that can be drawn.

### 4.1 Subsection

#### 4.1.1 Subsubsection

Bulleted lists look like this:

- First bullet
- Second bullet
- Third bullet

Numbered lists can be added as follows:

1. First item
2. Second item
3. Third item

The text continues here.

### 4.2 Tables and Figures

All figures and tables should be cited in the main text as Table 2, Figure 1, and Figure 2. High quality resolution figures (vector graphics) are preferred which can be in pdf, eps or ps format. Otherwise, figures in png format are also acceptable.

Table 2: This is a table caption. Tables should be placed in the main text near to the first time they are cited.

Title 1	Title 2	Title 3
entry 1	data	data*
entry 2	data	data

\*footnote

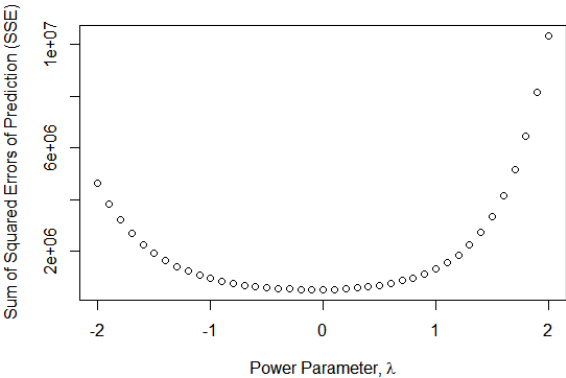


Figure 1: Figures should be placed in the main text near to the first time they are cited. A caption on a single line should be centered. If there are multiple panels, they should be listed as: (a) Description of what is contained in the first panel. (b) Description of what is contained in the second panel.

Text

Text

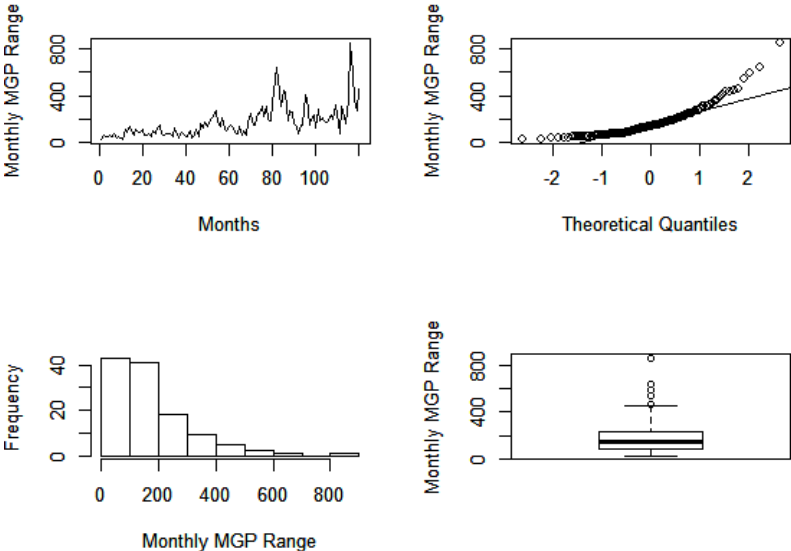


Figure 2: If there are multiple panels, they should be listed as: (a) Description of what is contained in the first panel. (b) Description of what is contained in the second panel, and so on.

Text

Text

## 5 Discussion

Authors should discuss the results and how they can be interpreted in perspective of previous studies and of the working hypotheses. The findings and their implications should be discussed in the broadest context possible. Future research directions may also be highlighted.

## 6 Conclusions

This section is not mandatory, but can be added to the manuscript if the discussion is unusually long or complex.

**Acknowledgement** In this section you can acknowledge any support given which is not covered by the author contribution or funding sections. This may include administrative and technical support, or donations in kind (e.g., materials used for experiments).

**Conflicts of Interest** Declare conflicts of interest or state “The authors declare no conflict of interest.” Authors must identify and declare any personal circumstances or interest that may be perceived as inappropriately influencing the representation or interpretation of reported research results.

## References

- [1] A. Ausskind & G. Hrabovsky (1963). The independence of the continuum hypothesis. *Journal of the National Academy of Sciences*, 50(6), 1143–1148. <https://doi.org/10.1002/9781119466642>.
- [2] B. Busskind & G. Hrabovsky (2014). *Classical mechanics: the theoretical minimum*. Penguin Random House, New York, NY.
- [3] C. A. Crry, M. L. Cain, S. A. Wasserman, P. V. Minorsky & J. B. Reece (2016). *Campbell Biology*, pp. 187–221. Pearson, New York, NY.
- [4] D. M. Dhapiro (2018). Flow cytometry: The glass is half full. In T. S. Hawley & R. G. Hawley (Eds.), *Flow Cytometry Protocols*, pp. 1–10. Springer, New York, NY.
- [5] X.-Y. Eang, W.-Y. Peng, J.-T. Lao & H.-H. Cheng (2019). Intelligent sailboard device based on improved pid algorithm. In *ACAI 2019*, pp. 63–67. Association for Computing Machinery, New York, NY.
- [6] F. Foslin (1993). *Relaxation Effects for Coupled Nuclear Spins*. PhD thesis, Stanford University, Stanford, CA.
- [7] K. Luo (2013). A novel self-adaptive harmony search algorithm. *Journal of Applied Mathematics*, 22, Article ID: 653749, 16 pages.