

PHD WORKSHOP 2024 — PAPER TEMPLATE

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ABSTRAKT

The abstract has to be clearly written in the range from 100 to 140 words and should state the principal objectives and scope of the investigation or project, describe the general methodology employed, summarize the results, and state the principal conclusions.

Now that you have got the attention of your reader, it's important to invoke curiosity for your article, thereby keeping your reader interested and wanting to read more.

KLÍČOVÁ SLOVA

One • Two • Three • Four • Five

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KEYWORDS

One • Two • Three • Four • Five

Please, include at least 4 keywords or phrases. Pay careful attention to the words you choose as these would help other researchers find your paper while they search for research articles.

1. INTRODUCTION

This is the template file for the proceedings of the 10th PhD Workshop of the Department of Concrete and Masonry Structures.

Please, use this \LaTeX template when preparing your submission. The template is available in electronic form at the website: concrete.fsv.cvut.cz/phdworkshop. The submission is fully electronic and automated through the PhD Workshop Submission System. Do not send your paper directly by e-mail.

The minimum acceptable paper length is 4 pages and must not exceed 6 pages. DO NOT change the style or margins given in the template. The template assures a format as described below and a uniform appearance for all papers in the PhD Workshop proceedings. Papers that do not conform to this will not be accepted.

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This section should help the readers understand the importance of your topic of study, in the light of the past research work and the future scope. It is best to divide your introduction into three parts: one which gives an overview of the topic, second which highlights past research findings, and the third which recites the aims of your study along with your hypothesis. It is also vital to mention the novelty of your research and the importance to study it. Mention correctly the references to past research work in the text where they appear.

1.1. Title

The title should be as short, concise and informative as possible. Use descriptive words that you would associate strongly with the content of your paper. It should not contain non-standard acronyms or abbreviations and should not exceed 80 characters and must not exceed two rows in the abstract template.

1.2. Figures

All figures should be centered on the column (or page, if the figure spans across both columns), see Figures 1, 2, 3, and 5. Figure captions (in italic) should follow each figure.

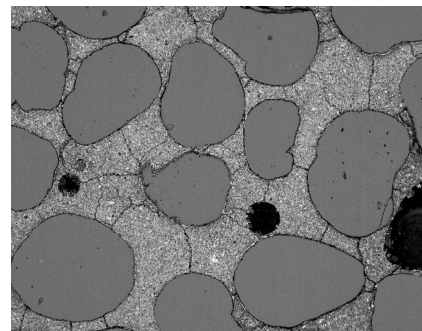


Figure 1: *Included bitmap graphics (.jpg file).*

JPG file format is recommended for photo-like images, whereas PNG file format is intended for graphics containing line art, text, sharp edges and wide areas of flat color. A minimum resolution of 300 DPI (cs.wikipedia.org/wiki/DPI) is required.

However, plots should be vectorial (no screen copy, no bitmap, etc). For example when using `Matlab`, export using either Postscript or PDF format. The font size of the text within the figures should range from footnote to small font size.

* Supervisor: doc. Ing. Štěpán Růžička, Ph.D.

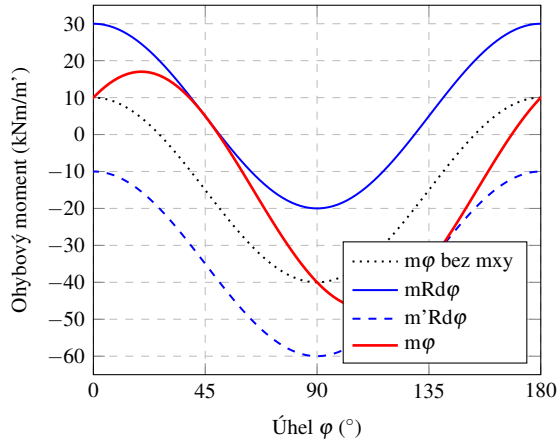


Figure 2: \LaTeX plot (data written in code).

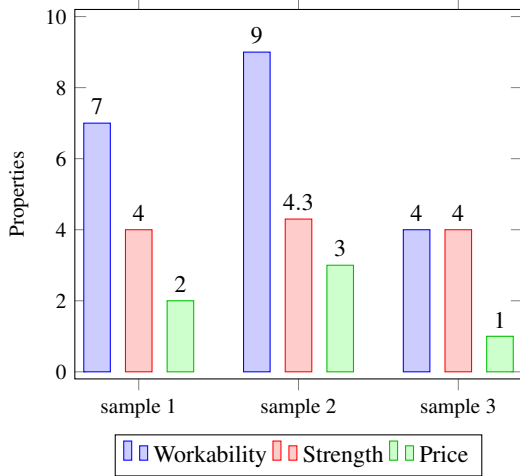


Figure 3: \LaTeX plot (data written in code).

Plots library and the related documentation:
pgfplots.sourceforge.net/gallery.html
mirrors.concertpass.com/.../pgfplots.pdf

1.3. Tables

As for figures, all tables should be centered on the column (or page, if the table spans across both columns). Table captions should be in italic and placed above tables, see Table 1, 2, and 3.

Table examples:

en.wikibooks.org/wiki/LaTeX/Tables

1.4. Equations

Equations should be placed on separate lines and numbered:

$$X(e^{j\Omega}) = \sum_{n=0}^{N-1} x(n)e^{-j\Omega n} \quad (1)$$

where the sequence $x(n)$ in equation (1) is a windowed frame:

$$x(n) = s(n) \cdot w(n) \quad (2)$$

with a window function $w(n)$.

Table 1: *Example table 1.*

Materials	Composition, (kg m^{-3})		
	A ₁	A ₂	A ₃
CEM I 42.5R	391.2	425.6	485.2
x-x	589.4	535.8	502.9
x-x	405.0	388.3	395.2
x-x	740.5	760.0	720.1
Water	142.4	157.3	178.0
XX, (%)	-	1.8	2.1

Table 2: *Example table 2.*

Item		
Animal	Description	Price (€)
Gnat	per gram	13.65
	each	0.01
Gnu	stuffed	92.50
Emu	stuffed	33.33
Armadillo	frozen	8.99

Please use `\vect{ }` command for vectors and matrices, as can be seen in Equations 3 and 6.

$$\ddot{\mathbf{u}}_{n+1} = \frac{4}{\Delta t^2} (\mathbf{u}_{n+1} - \mathbf{u}_n - \Delta t \dot{\mathbf{u}}_n) - \ddot{\mathbf{u}}_n \quad (3)$$

$$f(x) = \begin{cases} x^2 & : x < 0 \\ x^3 & : x \geq 0 \end{cases} \quad (4)$$

$$\lim_{x \rightarrow 0} \frac{e^x - 1}{2x} \stackrel{\left[\frac{0}{0} \right]}{=} \lim_{x \rightarrow 0} \frac{e^x}{2} = \frac{1}{2} \quad (5)$$

$$\mathbf{K} = \begin{bmatrix} 4k_a & 0 & 0 \\ 0 & 4k_l & 2ak_l \\ 0 & 2ak_l & a^2k_l + d_b^2k_a \end{bmatrix} \quad (6)$$

$$p(x) = 3x^6 + 14x^5y + 590x^4y^2 + 19x^3y^3 - 12x^2y^4 - 12xy^5 + 2y^6 - a^3b^3 \quad (7)$$

$$A = \frac{\pi r^2}{2} = \frac{1}{2} \pi r^2 \quad (8)$$

$$\begin{aligned} 2x - 5y &= 8 \\ 3x + 11y &= -12 \end{aligned} \quad (9)$$

More examples:

en.wikibooks.org/wiki/LaTeX/Mathematics

en.wikibooks.org/wiki/LaTeX/Advanced_Mathematics

1.5. Units and Symbols

Please use `\,` for space between numerical value and unit symbol.

10 m 10 m kg m^{-3} kg m^{-3} α_{23} λ Φ ψ ... \hat{x} Δ Δ \angle 10 MPa 10 MPa kg m s^{-2} $^\circ\text{C}$ a^{xyz} a_{c3}^{xx}

SI units package documentation:

mirrors.nic.cz/.../siunitx.pdf

Compact list of symbols:

ftp.cvut.cz/.../LaTeXSymbols.pdf

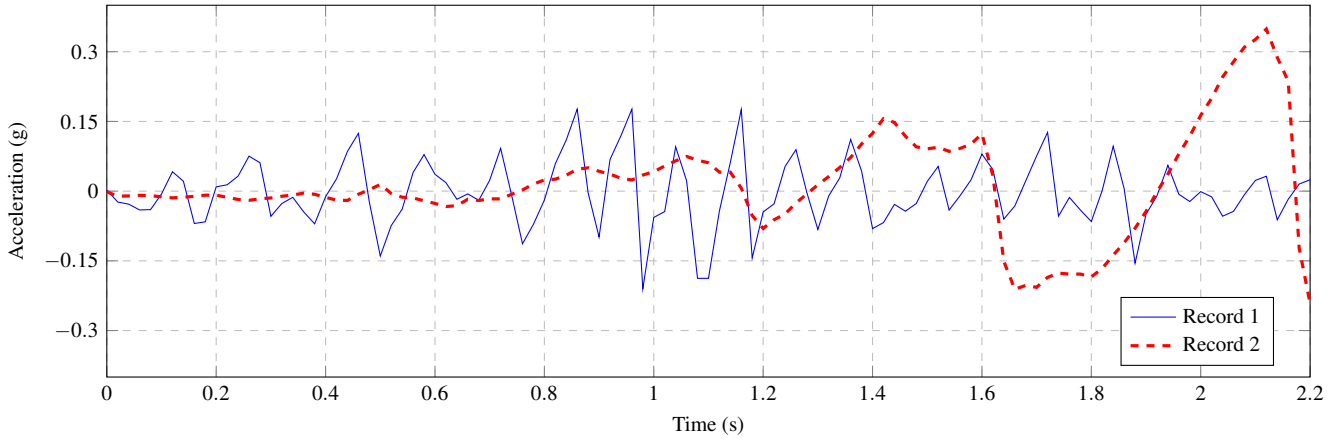


Figure 4: \LaTeX plot (data loaded from .txt file).

Table 3: Example table 3 (two column table).

Case	Method#1	Method#2	Method#3	Method#4	Method#5	Method#6
1	50	837	970	421	4522	3511
2	47	877	230	45	9522	8524
3	31	25	415	354	3542	2482
4	35	144	236	44	5758	4452
5	45	300	556	567	1185	5245

$\gamma, [-]$		$\tilde{\Gamma}_1$			$\tilde{\Gamma}_2$			$\tilde{\Gamma}_3$		
$\delta, [-]$		$\tilde{\Delta}_1$	$\tilde{\Delta}_2$	$\tilde{\Delta}_3$	$\tilde{\Delta}_1$	$\tilde{\Delta}_2$	$\tilde{\Delta}_3$	$\tilde{\Delta}_1$	$\tilde{\Delta}_2$	$\tilde{\Delta}_3$
$\omega, [-]$	$\tilde{\Omega}_1$	$\tilde{\Phi}_3$	$\tilde{\Phi}_2$	$\tilde{\Phi}_1$	$\tilde{\Phi}_4$	$\tilde{\Phi}_3$	$\tilde{\Phi}_2$	$\tilde{\Phi}_5$	$\tilde{\Phi}_4$	$\tilde{\Phi}_3$
	$\tilde{\Omega}_2$	$\tilde{\Phi}_4$	$\tilde{\Phi}_3$	$\tilde{\Phi}_2$	$\tilde{\Phi}_5$	$\tilde{\Phi}_4$	$\tilde{\Phi}_3$	$\tilde{\Phi}_6$	$\tilde{\Phi}_5$	$\tilde{\Phi}_4$
	$\tilde{\Omega}_3$	$\tilde{\Phi}_5$	$\tilde{\Phi}_4$	$\tilde{\Phi}_3$	$\tilde{\Phi}_6$	$\tilde{\Phi}_5$	$\tilde{\Phi}_4$	$\tilde{\Phi}_7$	$\tilde{\Phi}_6$	$\tilde{\Phi}_5$

Figure 5: Included vector graphics (.pdf file).

1.6. Lists

1.6.1. Ordered list

1. First level item
2. First level item
 - (a) Second level item
 - (b) Second level item
 - i. Third level item
 - ii. Third level item
3. First level item ...

1.6.2. Unordered list

- First item
- Second item
- Third item

1.6.3. Nested list

1. First item
 - First item of nested list
 - Second item of nested list
2. Second item

1.7. Page Numbers

Page numbers will be added to the document electronically, so please leave the numbering as is.

1.8. References

A Harvard style is used for the reference format. Appearance of the references: (Suprenant 1992, Neville 1995, Kupfer et al. 1969). It is recommended to use scholar.google.cz to download BibTeX citations. Please use `\citep{}` command for citations.

2. METHODS

In this section, you explain clearly how you carried out your study. The purpose is to provide sufficient information on methodology and materials employed, so that competent professionals can reproduce the experiments, numerical simulations or projects reported. For scientific and technical merit, the possibility of reproduction of same or similar results must exist. In case of serious doubt about the viability for reproducing the work, reviewers are encouraged to reject the manuscript.

3. RESULTS

The purpose of the *Results* section is to objectively present your key results, without interpretation, in an orderly and logical sequence using both text and illustrative materials (Tables and Figures). The *Results* section always begins with text, reporting the key results and referring to your figures and tables as you proceed.

4. DISCUSSION

Having heaps of data are of no importance if you cannot deduce valuable findings from them. The section on *Discussion* is thus very important and should be given ample amount of time and attention. You should systematically state what you interpret or infer from the data you have collected, against the background of existing knowledge. Refer to the hypothesis you stated in the *Introduction* and explain if and how your findings support your claims. Every study has some limitations and hence do not be shy to mention them. If you would like to challenge another researcher's findings, respectfully state your reasons for the same with evidence from your research results. You could also suggest alternative ways of resolving such conflicts. Avoid making exaggerated claims and rely on facts rather than speculations.

5. CONCLUSIONS

The *Abstract* and *Conclusions* sections are most read, and hence you should pay special attention to these sections of your research paper. The *Conclusions* are the salient findings of your *Discussion* section, where you systematically list your research findings

ACKNOWLEDGEMENTS

If, in your experiment, you received any significant help in thinking up, designing, or carrying out the work, or received materials from someone who did you a favour by supplying them, you shall acknowledge this assistance and the service or material provided. Authors always acknowledge any sources of funding that supported the research.

References

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