UNIVERZA V LJUBLJANI
FAKULTETA ZA MATEMATIKO IN FIZIKO

Matematika – 2. stopnja

Marija Novak

NASLOV DELA

Magistrsko delo

Mentor: prof. dr. Janez Novak

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UNIVERSITY OF LJUBLJANA
FACULTY OF MATHEMATICS AND PHYSICS

Mathematics – 2nd cycle

Marija Novak

TITLE IN ENGLISH

Master's Thesis

Adviser: (Assistant/Associative) Professor Janez Novak

Ljubljana, 2017

Acknowledgements

Not obligatory. I would like to thank...

Contents

Program dela

Mentor naj napiše program dela skupaj z osnovno literaturo. Na literaturo se lahko sklicuje kot [6], [3], [14].

Work plan

Adviser writes down the plan of the project. He/she can cite the references in the following way [6], [3], [14].

Osnovna literatura (Basic references)

Literatura mora biti tukaj posebej samostojno navedena (po pomembnosti) in ne le citirana. V tem razdelku literature ne oštevilčimo po svoje, ampak uporabljamo okolje itemize in ukaz plancite, saj je celotna literatura oštevilčena na koncu. (The main references need to be explicitly written down here (in the order of importance) and not only cited. In this section we do not enumerate the references again, since they are already enumerated in the last section. We use the environment itemize and command plancite instead.)

[6] L. P. Lebedev and M. J. Cloud, *Introduction to Mathematical Elasticity*, World Scientific, Singapur, 2009

[3] M. E. Gurtin, *An Introduction to Continuum Mechanics*, Mathematics in Science and Engineering **158**, Academic Press, New York, 1982

[14] O. C. Zienkiewicz and R. L. Taylor, *The Finite Element Method: Solid mechanics*, The Finite Element Method **2**, Butterworth-Heinemann, Oxford, 2000

Podpis mentorja (adviser):

Naslov dela

Povzetek

Tukaj napišemo povzetek vsebine. Sem sodi razlaga vsebine in ne opis tega, kako je delo organizirano.

Title in English

Abstract

An abstract of the work is written here. This includes a short description of the content and not the structure of your work.

Math. Subj. Class. (2010): oznake kot 74B05, 65N99, na voljo so na naslovu `http://www.ams.org/msc/msc2010.html?t=65Mxx`

Ključne besede: nekaj ključnih pojmov

Keywords: some key concepts

1 Introduction

Write down a short introduction, focusing on historical and mathematical aspects. Introduce the motivation for the problem and where and how it has been dealt with. At the end write down how the thesis is organised – what is written in each Section.

Use English environments, the word "proof" will be written in English.

Definition 1.1. A is an ordered set $(E, \leq)$ such that for any two elements $x, y \in E$, the set $\{x, y\}$ has a least upper bound $x \vee y$ and a greatest lower bound $x \wedge y$.

Theorem 1.2. *For $X \subseteq E$ if the set of lower bounds of X has a least upper bound, then this is the greatest lower bound of X.*

Proof. We prove this in the following way... □

For detailed instructions, see the part in slovenian language. When referencing to sections and other items use capital letters, e.g. in Figure ...

2 Razširjeni povzetek v slovenščini

2.1 Integrali po ω-kompleksih

2.2 Definicija

Definicija 2.1. Neskončno zaporedje kompleksnih števil, označeno z $\omega = (\omega_1, \omega_2, \ldots)$, [redacted] se imenuje *ω-kompleks.*[1]

Črni blok zgoraj je tam namenoma. Označuje, da LaTeX ni znal vrstice prelomiti pravilno in vas na to opozarja. Preoblikujte stavek ali mu pomagajte deliti problematično besedo z ukazom `\hyphenation{an-ti-ko-mu-ta-ti-ven}` v preambuli.

Trditev 2.2 (Znano ime ali avtor)**.** *Obstaja vsaj en ω-kompleks.*

Dokaz. Naštejmo nekaj primerov:

$$\omega = (0, 0, 0, \ldots), \tag{2.1}$$
$$\omega = (1, i, -1, -i, 1, \ldots), \tag{2.2}$$
$$\omega = (0, 1, 2, 3, \ldots). \qquad \square$$

2.3 Sklicevanje in citiranje

Za sklice uporabljamo `\ref`, za sklice na enačbe `\eqref`, za citate `\cite`. Pri sklicevanju in citiranju sklicano številko povežemo s prejšnjo besedo z nedeljivim presledkom ~, kot npr. `iz trditve~\ref{trd:obstoj-omega} vidimo`.

Primer 2.3. Zaporedje (2.1) iz dokaza trditve 2.2 na strani 3 lahko najdemo tudi v Spletni enciklopediji zaporedij [11]. Citirano lahko tudi bolj natačno [6, trditev 2.1, str. 23].

2.4 Okrajšave

Pri uporabi okrajšav LaTeX za piko vstavi predolg presledek, kot npr. tukaj. Zato se za vsako piko, ki ni konec stavka doda presledek običajne širine z ukazom `\␣`, kot npr. tukaj. Primerjaj z okrajšavo zgoraj za razliko.

2.5 Kako narediti stvarno kazalo

Dodate ukaze `\index{polje}` na besede, kjer je pojavijo, kot tukaj. Več o stvarnih kazalih je na voljo na `https://en.wikibooks.org/wiki/LaTeX/Indexing`.

2.6 Navajanje literature

Članke citiramo z uporabo `\cite{label}`, `\cite[text]{label}` ali pa več naenkrat z `\cite\{label1, label2}`. Tudi tukaj predhodno besedo in citat povežemo z nedeljivim presledkom ~. Na primer [1, 7], ali pa [5], ali pa [12, str. 12], [9, enačba (2.3)]. Vnosi iz `.bib` datoteke, ki niso citirani, se ne prikažejo v seznamu literature, zato jih tukaj citiram. [13], [2], [10], [8], [4].

[1] To ime je izmišljeno.

References

[1] Y. Chen, J. Lee and A. Eskandarian, *Meshless Methods in Solid Mechanics*, Springer, New York, 2006.

[2] R. Gregorič, *Stopničeni E-∞ kolobarji in Proj v algebraični spektralni geometriji*, Master's thesis, Fakulteta za matematiko in fiziko, Univerza v Ljubljani, 2017.

[3] M. E. Gurtin, *An Introduction to Continuum Mechanics*, Mathematics in Science and Engineering **158**, Academic Press, New York, 1982.

[4] E. A. Kearsley and J. Fong, *Linearly independent sets of isotropic Cartesian tensors of ranks up to eight*, J. Res. Natl Bureau of Standards Part B: Math. Sci. B **79** (1975) 49–58, doi: 10.6028/jres.079b.005.

[5] A. M. Kibriya and E. Frank, *An empirical comparison of exact nearest neighbour algorithms*, in: Knowledge Discovery in Databases: PKDD 2007: 11th European Conference on Principles and Practice of Knowledge Discovery in Databases, Warsaw, Poland, September 17-21, 2007. Proceedings (eds. J. N. Kok et al.), Springer, Berlin, Heidelberg, pp. 140–151, doi: 10.1007/978-3-540-74976-9_16.

[6] L. P. Lebedev and M. J. Cloud, *Introduction to Mathematical Elasticity*, World Scientific, Singapur, 2009.

[7] G.-R. Liu and Y. Gu, *A point interpolation method for two-dimensional solids*, Int. J. Numer. Methods Eng. **50**(4) (2001) 937–951.

[8] *n-sphere*, [ogled 21. 8. 2017], dostopno na `https://en.wikipedia.org/wiki/N-sphere`.

[9] K. Pereira et al., *On the convergence of stresses in fretting fatigue*, Materials **9**(8) (2016), doi: 10.3390/ma9080639.

[10] J. Slak, *Induktivni in koinduktivni tipi*, Bachelor's thesis, Fakulteta za matematiko in fiziko, Univerza v Ljubljani, 2015.

[11] N. J. A. Sloane, *The On-Line Encyclopedia of Integer Sequences, Sequence A005043*, [ogled 9. 7. 2016], dostopno na `http://oeis.org/A005043`.

[12] R. Trobec and G. Kosec, *Parallel scientific computing: theory, algorithms, and applications of mesh based and meshless methods*, SpringerBriefs in Computer Science, Springer, New York, 2015.

[13] V. Vene, *Categorical programming with inductive and coinductive types*, Ph.D. thesis, Univerza v Tartuju, 2000.

[14] O. C. Zienkiewicz and R. L. Taylor, *The Finite Element Method: Solid mechanics*, The Finite Element Method **2**, Butterworth-Heinemann, Oxford, 2000.