

## List of Publications

Given name, surname, academic degree of student: **Ing. Filip Jediný**

### Publications as of 31<sup>th</sup> of March 2021 related to the dissertation

**Filip Jediný**, NOvA neutrino experiment status, *Journal of Physics: Conference series* **490** (1), 2014, 012019 (main author, impacted, 7x cited)

**Filip Jediný**, NOvA neutrino experiment, *Particle and Astroparticle Physics, Gravitation and Cosmology: Predictions, Observations and New Projects*, Proceedings of XXXth International Workshop on High Energy Physics. *World Scientific Publishing Co.Pte.Ltd.*, 2015. ISBN 9789814689304, pp. 266-270 (main author)

**NOvA Collaboration**, *First measurement of electron neutrino appearance in NOvA*, *Physical Review Letters* **116**, 2016 no.15, 151806 [arXiv:1601.05022](https://arxiv.org/abs/1601.05022) (co-author, impacted, 256x cited)

**NOvA Collaboration**, *First measurement of muon-neutrino disappearance in NOvA*, *Phys. Reviews* **D93**, 2016, 5, 051104 [arXiv:1601.05037](https://arxiv.org/abs/1601.05037) (co-author, impacted, 170x cited)

**NOvA Collaboration**, *Measurement of the neutrino mixing angle  $\theta_{23}$  in NOvA*, *Physical Review Letters* **118** (Editors' Suggestion), 2017, no.15, 151802 [arXiv:1701.05891](https://arxiv.org/abs/1701.05891) (co-author, impacted, 172x cited)

**NOvA Collaboration**, *Constraints on Oscillation Parameters from  $\nu_e$  Appearance and  $\nu_\mu$  Disappearance in NOvA*, *Physical Review Letters* **118** (Editors' Suggestion), 2017, no.23, 231801 [arXiv:1703.03328](https://arxiv.org/abs/1703.03328) (co-author, impacted, 200x cited)

**Filip Jediný**, Athanasios Hatzikoutelis, Sergey Kotelnikov, Biao Wang, *Looking amongst the neutrinos for lightweight dark matter in the NOvA Near Detector*, Proceedings of Science vol. **282 ICHEP2016**, 2017, 876 (main author)

**NOvA Collaboration**, *Search for active-sterile neutrino mixing using neutral-current interactions in NOvA*, *Phys. Reviews* **D96**, 2017, 072006 [arXiv:1706.04592](https://arxiv.org/abs/1706.04592) (co-author, impacted, 79x cited)

**Filip Jediný**, *NOvA latest results*, Proceedings of Science **FPCP2017 Neutrinos**, 2017, 025 (main author, 1x cited)

**Filip Jediný**, Athanasios Hatzikoutelis, Sergey Kotelnikov, Biao Wang, *Searching for Lightweight Dark Matter in NOvA Near Detector*, Proceedings of Science **FPCP2017** Volume 304, 2017, 056 (main author)

**Filip Jediný**, *New results on  $\theta_{23}$  from NOvA*, Moriond EW 2017 conference proceedings C17-03-18, 2017, p.333-338 (main author)

**NOvA Collaboration**, *New constraints on oscillation parameters from  $\nu_e$  appearance and  $\nu_\mu$  disappearance in NOvA experiment*, *Phys. Reviews* **D98**, 2018, 032012 [arXiv:1806.00096](https://arxiv.org/abs/1806.00096) (co-author, impacted, 159x cited)

**NOvA** Collaboration, *Measurement of Neutrino-Induced Neutral-Current Coherent  $\pi^0$  Production in the NOvA Near Detector*, FERMILAB-PUB-19-047-ND, Phys.Rev.**D102**, 2020, [arXiv:1902.00558](https://arxiv.org/abs/1902.00558) (co-author, impacted, 9x cited)

**NOvA** Collaboration, *Observation of seasonal variation of atmospheric multiple-muon events in the NOvA Near Detector*, Phys. Reviews **D99**, 2019, 122004, [arXiv:1904.12975](https://arxiv.org/abs/1904.12975) (co-author, impacted, 1x cited)

**NOvA** Collaboration, *First Measurement of Neutrino Oscillation Parameters using Neutrinos and Antineutrinos by NOvA*, Phys. Rev. Lett. 123), 2019, [arXiv:1906.04907](https://arxiv.org/abs/1906.04907) (co-author, impacted, 124x cited)

**NOvA** Collaboration, *Supernova neutrino detection in NOvA*, JCAP 10, 2020, 014, [arXiv:2005.07155](https://arxiv.org/abs/2005.07155) (co-author, impacted, 5x cited)

**NOvA** Collaboration, *Search for multi-messenger signals in NOvA coincident with LIGO/Virgo detections*, Phys. Rev. **D101**, 2020, 112006, [arXiv:2001.07240](https://arxiv.org/abs/2001.07240) (co-author, impacted, 3x cited)

**NOvA** Collaboration, *Adjusting Neutrino Interaction Models and Evaluating Uncertainties using NOvA Near Detector Data*, Eur. Phys. J. C 80, 2020, 1119 [arXiv:2006.08727](https://arxiv.org/abs/2006.08727) (co-author, impacted, 2x cited)

**NOvA** Collaboration, *Search for Slow Magnetic Monopoles with the NOvA Detector on the Surface*, Phys. Rev. **D103**, 2020, 012007 [arXiv:2009.04867](https://arxiv.org/abs/2009.04867) (co-author, impacted)

## Non-NOvA-dissertation related publications

**Obraztsov, V.; Konaka, A.; Ikeda, M.; Jediny, F.; Shirokov, E.; Kalekin, O.; Palomares-Ruiz, S.** Panel Discussion V: Neutrino Physics. Particle and Astroparticle Physics, Gravitation and Cosmology: Predictions, Observations and New Projects. Proceedings of XXXth International Workshop on High Energy Physics. *World Scientific Publishing Co.Pte.Ltd.* 2015. ISBN 9789814689304, pp.276-280 (co-author)

**DUNE** Collaboration, Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE): Conceptual Design Report, Volume 2: The Physics Program for DUNE at LBNF, FERMILAB-DESIGN-2016-02, 2016, [arXiv:1512.06148](https://arxiv.org/abs/1512.06148) (co-author, 505x cited)

**DUNE** Collaboration, Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE): Conceptual Design Report, Volume 4 The DUNE Detectors at LBNF, FERMILAB-DESIGN-2016-04, 2016, [arXiv:1601.02984](https://arxiv.org/abs/1601.02984) (co-author, 180x cited)

**DUNE** Collaboration, Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE): Conceptual Design Report, Volume 1 The LBNF and DUNE Projects, FERMILAB-DESIGN-2016-01, 2016, [arXiv:1601.05471](https://arxiv.org/abs/1601.05471) (co-author, 260x cited)

**DUNE** Collaboration, *The Single-Phase ProtoDUNE Technical Design Report*, FERMILAB-DESIGN-2017-02, 2017, : [arXiv:1706.07081](https://arxiv.org/abs/1706.07081), (co-author, 44x cited)

**DUNE** Collaboration, *The DUNE Far Detector Interim Design Report Volume 1: Physics, Technology and Strategies*, FERMILAB-DESIGN-2018-02, 2018, [arXiv:1807.10334](https://arxiv.org/abs/1807.10334) ,  
(co-author, 58x cited)

**DUNE** Collaboration, *The DUNE Far Detector Interim Design Report Volume 2: Single-Phase Module*, FERMILAB-DESIGN-2018-03, 2018, [arXiv:1807.10327](https://arxiv.org/abs/1807.10327) ,  
(co-author, 20x cited)

**DUNE** Collaboration, *The DUNE Far Detector Interim Design Report Volume 3: Dual-Phase Module*, FERMILAB-DESIGN-2018-04, 2018, [arXiv:1807.10340](https://arxiv.org/abs/1807.10340) ,  
(co-author, 18x cited)

**DUNE** Collaboration, *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume II DUNE Physics*, FERMILAB-PUB-20-025-ND, 2020, [arXiv:2002.03005](https://arxiv.org/abs/2002.03005) , (co-author, 115x cited)

**DUNE** Collaboration, *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume IV Far Detector Single-phase Technology*, JINST 15, 08, 2020, [arXiv:2002.03010](https://arxiv.org/abs/2002.03010), (co-author, impacted, 35x cited)

**DUNE** Collaboration, *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume III: DUNE Far Detector Technical Coordination*, JINST 15, 08, 2020, [arXiv:2002.03008](https://arxiv.org/abs/2002.03008), (co-author, impacted, 14x cited)

**DUNE** Collaboration, *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume I: Introduction to DUNE*, JINST 15, 08, 2020, [arXiv:2002.02967](https://arxiv.org/abs/2002.02967), (co-author, impacted, 75x cited)

**DUNE** Collaboration, *Deep Underground Neutrino Experiment (DUNE) Near Detector Conceptual Design Report*, FERMILAB-PUB-21-067-E-LBNF-PPD-SCD-T, 2021, [arXiv:1807.10327](https://arxiv.org/abs/1807.10327) (co-author, cited)

**DUNE** Collaboration, *Experiment Simulation Configurations Approximating DUNE TDR*, FERMILAB-FN-1125-ND, 2021, [arXiv:2103.04797](https://arxiv.org/abs/2103.04797) (co-author)

**DUNE** Collaboration, *Prospects for Beyond the Standard Model Physics Searches at the Deep Underground Neutrino Experiment*, 202, [arXiv:2008.12769](https://arxiv.org/abs/2008.12769) (co-author, 11x cited)

**DUNE** Collaboration, *Supernova Neutrino Burst Detection with the Deep Underground Neutrino Experiment*, 2020, [arXiv:2008.06647](https://arxiv.org/abs/2008.06647) (co-author, 15x cited)

**DUNE** Collaboration, *First results on ProtoDUNE-SP liquid argon time projection chamber performance from a beam test at the CERN Neutrino Platform*, JINST 15, 2020, 12 [arXiv:2007.06722](https://arxiv.org/abs/2007.06722) (co-author, impacted, 18x cited)

**DUNE** Collaboration, *Long-baseline neutrino oscillation physics potential of the DUNE experiment*, Eur.Phys.J.C 80, 2020, 10, [arXiv:2006.16043](https://arxiv.org/abs/2006.16043) (co-author, impacted, 17x cited)

**DUNE** Collaboration, *Neutrino interaction classification with a convolutional neural network in the DUNE far detector*, Phys. Rev. **D102**, 2020, 092003, [arXiv:2006.15052](https://arxiv.org/abs/2006.15052) (co-author, impacted, 13x cited)

## Other publications

**Filip Jediný, Hatzikoutelis, A. Kotelnikov, S. Wang, B.** *Lightweight Dark Matter search in a neutrino beam with the NOvA Near Detector*. Poster at XXXIX. International Conference on High Energy Physics, Seoul „ICHEP2018“, 8.7.2017

**Filip Jediný (on behalf of the NOvA Collaboration).** *NOvA – Latest results*. Talk at 52<sup>nd</sup> Recontres de Moriond conference, La Thuile, Italy, March 24<sup>th</sup>, 2017

**Filip Jediný,** Experiment NOvA zkoumá oscilace neutrin, Pražská technika 3/2015

**Filip Jediný, et al.,** Press release: Experiment NOvA detekoval první neutrino. First published 11. 2. 2014 at Fermilab. Translated and published in Czech:

[http://www.fnal.gov/pub/presspass/press\\_releases/2014/NOvA-20140211.html](http://www.fnal.gov/pub/presspass/press_releases/2014/NOvA-20140211.html)

<http://www.mff.cuni.cz/verejnost/konalo-se/2014-02-nova/>

<http://www.cas.cz/sd/novinky/hlavni-stranka/2014/140214-experiment-nova-detekoval-prvni-neutrina.html>

<http://www.fzu.cz/novinky/experiment-nova-detekoval-prvni-neutrina>

<http://www.scienceweek.cz/experiment-nova-ve-fermilabu-detekoval-prvni-neutrina-iid-102310>

**Filip Jediný,** Experiment Nova a hon na neutrina, Akademický bulletin, 2014/6, 17.6.2014, pp.2-5.

**Filip Jediný,** *Proč existuje vesmír?*, Wide audience 20x20 popular talk, Pecha Kucha Night vol. 2, 21<sup>st</sup> June 2014, Mariánské Lázně

**Filip Jediný,** Experiment NOvA, Rozhledy matematicko-fyzikální, 1/90

**Filip Jediný,** PANIC 2014 (Particles and Nuclei International Conference 2014), Hamburg, Germany, 24. - 29. Oct 2014 - *NOvA neutrino experiment* (DESY proceedings)

**Filip Jediný,** IC-MSQUARE *NOvA neutrino experiment*, poster session 4. 9. 2013, Praha

**Filip Jediný,** International School of Nuclear Physics - *NOvA neutrino experiment*, 25min talk, Erice, Sicílie

**Filip Jediný,** Rupert Leitner, Miloš Lokajíček ml., Karel Soustružník: Experiment NOvA poprvé zaznamenal dráhy prolétajících částic", in czech, published in popular-science magazine "Czechoslovak magazine for physics", vol. 3/2013 (<http://www.cscasfyz.fzu.cz/>) (co-author)