

open-atmos-krk

Sylwester Arabas (ZFŚ AGH)

recent graduates @UJ:

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2023-12-14

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open-atmos-krk: who we are



Sylwester Arabas
slyoo

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researching clouds in the cloud

👤 66 followers - 116 following

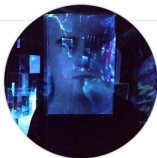
📄 agh.edu.pl
📍 Kraków, Poland
🕒 08:14 - same time
🔗 <https://slyoo.github.io/>
📄 in/sylwester-arabas
🔗 <https://scholar.google.com/citations?user=X1s5grkAAAAJ>
🔗 <https://orcid.org/0000-0003-2361-0082>

Achievements



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Organizations



Piotr Bartman-Szwarc
piotrbartman

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Phd candidate in Technical Computer Science @JagiellonianUniversity

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📄 @InvisibleThingsLab

Achievements



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Organizations



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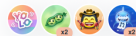
Oleksii Bulenok
abulenok

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👤 3 followers - 3 following

📍 Cracow, Poland

Achievements

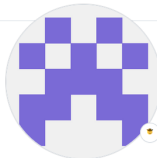


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Organizations



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Kacper Derlatka
Delclor

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👤 4 followers - 2 following

Achievements



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Block or Report



Sanky
bhlogade

Follow

👤 1 follower - 6 following

Block or Report



you?

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📍 Kraków

Block or Report

open-atmos-krk: open-source software we develop

numba-mpi (*Python*)

- [github.com/numba-mpi](https://github.com/open-atmos/numba-mpi)
- pypi.org/p/numba-mpi
- anaconda.org/conda-forge/numba-mpi
- aur.archlinux.org/packages/python-numba-mpi

PySDM (*Python, C/CUDA*)

- github.com/open-atmos/PySDM
- pypi.org/p/PySDM

PyMPDATA (*Python*)

- github.com/open-atmos/PyMPDATA
- pypi.org/p/PyMPDATA

PyMPDATA-MPI (*Python*)

- github.com/open-atmos/PyMPDATA-MPI
- pypi.org/p/PyMPDATA-MPI

PyPartMC (*C++, Fortran, C, Python*)

- github.com/open-atmos/PyPartMC
- pypi.org/p/PyPartMC

open-atmos-krk: active contributors to our software

- University of Illinois at Urbana-Champaign (IL, USA)
- California Institute of Technology (CA, USA)
- University of Warsaw (Poland)
- Max Planck Institute for Dynamics and Self-Organization (Germany)
- Columbia University (NY, USA)
- University of Exeter (England)
- ...

open-atmos-krk: our tech stack

Our technological stack:



Submitting new code to the project, please preferably use [GitHub pull requests](#) - it helps to keep record of code authorship, track and archive the code review workflow and allows to benefit from the continuous integration setup which automates execution of tests with the newly added code.

Developing the code, we follow [The Way of Python](#) and the [KISS principle](#). The codebase has greatly benefited from [PyCharm code inspections](#) and [Pylint](#), [Black](#) and [isort](#) code analysis (which are all part of the CI workflows).

Monte-Carlo collisional breakup in PySDM: GPU support and validation against analytical solutions

Master thesis

[← back to previous page](#)

Thesis information

Files

📄 **MSc_Oleksii_Bulenok.pdf** | (no description given)

kind: Thesis | size: 3.7 MB | language: English [EN] | submitted on 2023-09-30 04:47 by Oleksii Bulenok

📄 **PySDM-v2.29.zip** | (no description given)

kind: Other | size: 1.6 MB | language: English [EN] | submitted on 2023-09-30 04:49 by Oleksii Bulenok

Czy praca ma być dostępna w czytelni Archiwum UJ?	Yes
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Should the thesis be available on the internet?	Yes
---	-----

Kacper's MSc thesis: <https://www.ap.uj.edu.pl/diplomas/166883>

Distributed-memory parallelism with Python: MPI support in PyMPDATA for solving systems of transport equations

Master thesis

Thesis information

Files

📄 **Kacper_Derlatka_Masters_Thesis.pdf** | (no description given)

kind: Thesis | size: 1.5 MB | language: English [EN] | submitted on 2023-09-30 07:04 by Kacper Derlatka

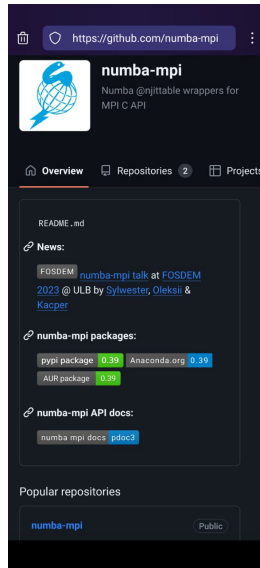
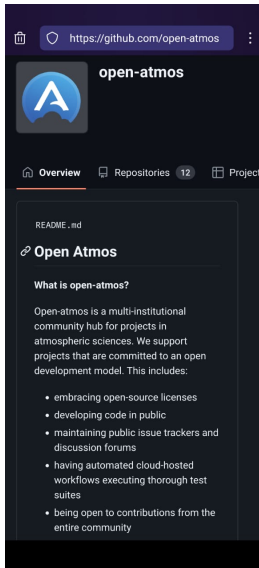
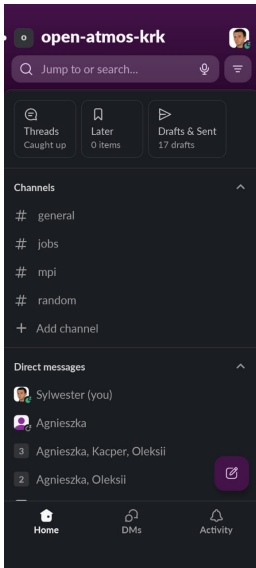
📄 **performance_test_scripts.zip** | (no description given)

kind: Other | size: 350.7 KB | language: English [EN] | submitted on 2023-09-30 07:07 by Kacper Derlatka

Czy praca ma być dostępna w czytelni Archiwum UJ?	Yes
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Should the thesis be available on the internet?	Yes
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open-atmos-krk: e-community



open-atmos-krk: offsite



(with Agnieszka Makulska - summer intern from IGF @ Univ. Warsaw)

open-atmos-krk: topics of theses (just examples)

Elements 1..3 of 3					
all AVAILABLE PARTIALLY AVAILABLE UNDER NEGOTIATION TAKEN					
Thesis title in original language ▲▼ Organizational unit ▲▼	Person providing the topic ⓘ ▲▼	Study fields	Thesis type	Topic status ⓘ ▲▼	Date of update ▲▼
High-performance Monte-Carlo simulations of clouds on Saturn's moon Titan [220-000] Faculty of Physics and Applied Computer Science	Sylwester Arabas	Applied Computer Science, Computer Physics, Physics with elements of computer science, Technical Physics	engineering	Available	Oct. 11, 2023
Simulation of incompressible Boussinesq fluid with Numba-based PyMPDATA solver [220-000] Faculty of Physics and Applied Computer Science	Sylwester Arabas	Applied Computer Science, Computer Physics, Physics with elements of computer science, Technical	engineering	Available	Oct. 11, 2023
Elements 1..3 of 3					

Thank you for your attention!

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