Name	Andrii Madonych
Position, Department/Faculty	Assistant, Department of Aerohydrodynamics, Faculty of Aircraft Engineering
Academic Degree, Academic Title	Postgraduate Student
Email:	a.o.madonych@khai.edu
ORCID iD:	0009-0007-3116-6416
Google Scholar:	Андрій Мадонич

EDUCATION:

Basic education (university, major, year of graduation):

- 2003–2007, Kryvyi Rih College of National Aviation University, Aviation and Cosmonautics, Bachelor
- 2007–2009, National Aviation University, Technical Operation, Production and Maintenance of Aircraft and Engines, Specialist
- 2008–2012, State Flight Academy of Ukraine, Flight Operations, Master

Postgraduate/Doctoral studies:

- 2023–present, National Aerospace University “KhAI”, Postgraduate Student, Department of Aerohydrodynamics

Additional training, certification programs:

- 2020, ICAO Institute, Kyiv — Course for Aircraft Accident Investigators; Course in Safety Management System

WORK EXPERIENCE:

Professional Career (Workplace, Years, Position):

- 2010–2011, Meridian Airlines, Co-Pilot (An-2)
- 2011–2012, Kryvyi Rih College of the National Aviation University, Head of the Metrology and Standardization Laboratory
- 2012–2013, Kharkiv Aeroclub, Co-Pilot (An-2)
- 2013–2018, Kirovohrad Aviation Sports Club, Head of Engineering Service
- 2014–2018, Kirovohrad Aviation Sports Club, Flight Instructor
- 2018–2024, Condor Flight School, Flight Instructor
- 2021–2024, Front-End Developer
- 2024–present, SkyUp Airlines LLC, Performance Engineer
- 2024–present, National Aerospace University “KhAI”, Assistant, Department of Aerohydrodynamics

Teaching Experience:

- 2011–2012, Kryvyi Rih College of NAU, Laboratory Head (teaching component included)
- 2014–2018, Kirovohrad Aviation Sports Club, Flight Instructor
- 2018–2024, Condor Flight School, Flight Instructor
- 2024–present, National Aerospace University “KhAI”, Assistant Lecturer

RESEARCH ACTIVITIES:

Main Research Areas:

- Flight dynamics and stability of aircraft motion parameters
- Functional stability of automatic flight control systems (AFCS)
- Failure flows and their mathematical modeling in aviation systems
- Risk analysis and fault-tolerant control methods

Number of Publications (Scopus, WoS, others):

- 3

Participation in Scientific Conferences:

- Madonych A.O., Penkovska N.S., Obidin D.M. Development of a Method for Ensuring Functional Stability of Aircraft Motion Parameters under Failure Flow Conditions. Proceedings of the International Conference Innovations and Scientific Potential of the World, Zaporizhzhia, Ukraine, May 24, 2024. DOI: 10.62731/mcnd-24.05.2024.003, ISBN 978-617-8312-30-5. Open Access.
- Madonych A.O., Penkovska N.S., Obidin D.M. Method for Ensuring Functional Stability of Aircraft Motion Parameters under Failure Flow Conditions. Proceedings of the XVI International Scientific and Practical Conference Modern Information and Innovative Technologies in Transport (MINTT–2024), Odesa, Ukraine, May 29–31, 2024. Open Access.

TEACHING ACTIVITIES:

Courses Taught:

- Practical classes in *Flight Dynamics* (National Aerospace University “KhAI”, 2023–2024 academic year)

SELECTED PUBLICATIONS:

Key Articles (Scopus, WoS, others):

- Tretiak, O., Kovryga, A., Kravchenko, S., Shpitalnyi, D., Zhukov, A., Serhiienko, S., Arefieva, M., Penkovska, N., Madonych, A. (2024). Estimating the influence of the rigidity of support assemblies on the resonance phenomena and the vibration state of a hydraulic unit. Eastern-European Journal of Enterprise Technologies, 6(7 (132), Applied Mechanics), 53–64. DOI: 10.15587/1729-4061.2024.316778. Open access.

ADDITIONAL INFORMATION:

Language Proficiency:

- English — Upper-Intermediate

IT Skills:

- Front-End Development (JavaScript/TypeScript, React, RxJS, Tailwind, Vite)
- Software tools for performance engineering and flight operations
- Microsoft Office, LaTeX, MATLAB, Python (basic scientific computing)