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Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: HKE-1389-2023

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Education Information

Doctorate, Middle East Technical University, Turkey 2023 - Continues

Postgraduate, Middle East Technical University, Graduate School of Natural and Applied Sciences, Mechanical Engineering, Turkey 2020 - 2023

Undergraduate, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, Turkey 2015 - 2020

Dissertations

Postgraduate, Physics Informed Neural Networks for Computational Fluid Dynamics, Middle East Technical University, 2023

Research Areas

Fluid Mechanics, Heat and Mass Transfer, Computational fluid dynamics

Academic Titles / Tasks

Research Assistant, Middle East Technical University, Faculty of Engineering, Department of Mechanical Engineering, 2022 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Physics-informed neural networks for weakly compressible flows using Galerkin-Boltzmann formulation**
AYGÜN A., KARAKUŞ A.
Physics of Fluids, vol.36, no.11, 2024 (SCI-Expanded)
- II. **Physics-informed neural networks for mesh deformation with exact boundary enforcement**
AYGÜN A., Maulik R., KARAKUŞ A.
Engineering Applications of Artificial Intelligence, vol.125, 2023 (SCI-Expanded)

III. PHYSICS INFORMED NEURAL NETWORKS FOR TWO DIMENSIONAL INCOMPRESSIBLE THERMAL CONVECTION PROBLEMS

Aygün A., Karakus A.

ISI BILIMI VE TEKNIGI DERGISI/ JOURNAL OF THERMAL SCIENCE AND TECHNOLOGY, vol.42, no.2, pp.221-232, 2022 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

- I. **Remin: A Physics-Informed Neural Network Framework and Its Application to Thermal Convection Problems**
Taşdelen A. S., Aygün A., Karakuş A.
24th Congress on Thermal Science and Technology, Ankara, Turkey, 6 - 08 September 2023, pp.1-7
- II. **Physics-Informed Neural Networks for Boltzmann-BGK Equations with Absorbing Boundary Layers**
Aygün A., Karakuş A.
SIAM Conference on Computational Science and Engineering 2023, Amsterdam, Netherlands, 27 February - 03 March 2023
- III. **Sıkıştırılabilir Euler Denklemlerinin Fizikle Öğrenen Yapay Sinir Ağları ile Çözümü**
AYGÜN A.
9. Ulusal Havacılık ve Uzay Konferansı 2022, İzmir, Turkey, 14 September 2022

Metrics

Publication: 6

Citation (WoS): 8

Citation (Scopus): 11

H-Index (WoS): 2

H-Index (Scopus): 2