

Prof. IŞIK HAKAN TARMAN

Personal Information

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International Researcher IDs

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Publons / Web Of Science ResearcherID: ABA-3339-2020

ScopusID: 6507552019

Yoksis Researcher ID: 167970

Education

Doctorate, Brown University, Applied Mathematics, United States Of America 1984 - 1988

Postgraduate, Bogazici University, Institute Of Science, Mechanical Engineering, Turkey 1982 - 1984

Undergraduate Double Major, Bogazici University, Engineering and Sciences, Mechanical Engineering & Mathematics, Turkey 1977 - 1982

Foreign Languages

English, C1 Advanced

Research Areas

Mechanical Engineering, Engineering and Technology

Academic Positions

Professor, Middle East Technical University, Faculty of Engineering, Department of Engineering Sciences, 2013 - Continues

Associate Professor, Middle East Technical University, Faculty of Engineering, Department of Engineering Sciences, 2002 - 2013

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Engineering Sciences, 1999 - 2002

Academic and Administrative Experience

Middle East Technical University, Graduate School of Natural and Applied Sciences, Biyomedikal Mühendisliği (YI) (Tezli), 2015 - Continues

Middle East Technical University, Graduate School of Natural and Applied Sciences, Biyomedikal Mühendisliği (YI) (Tezli), 2015 - 2017

Supervised Theses

- TARMAN I. H., A spectral approach for solving two-fluid flow stability problem, Postgraduate, M.EMİN(Student), 2022
- TARMAN I. H., A Study of structural design based on optimality, Postgraduate, D.Tamkan(Student), 2019
- TARMAN I. H., Mechanical reliability analysis using stress-strength interference model and engineering application of reliability: system safety assessment, Postgraduate, M.Bariş(Student), 2019
- TARMAN I. H., An Exploration of numerical approaches to Boltzmann equation regarding hydrodynamics, Postgraduate, A.Şahin(Student), 2019
- Tarman I. H., Dursunkaya Z., Multi-dimensional modelling of evaporation in the micro region of a micro grooved heat pipe, Doctorate, Y.AKKUŞ(Student), 2015
- TARMAN I. H., GÜRSES S., Statistical analysis of force distribution on the plantar foot during quiet stance, Doctorate, O.ALKAN(Student), 2015
- TARMAN I. H., Two dimensional modeling of electromagnetic radiation and scattering by spectral element method, Doctorate, I.MAHARIQ(Student), 2014
- TARMAN I. H., Numerical modeling of general compressible multi-phase flows, Doctorate, B.KALPAKLI(Student), 2013
- TARMAN I. H., Direct numerical simulation of pipe flow using a solenoidal spectral method, Doctorate, O.Tuğluk(Student), 2012
- TARMAN I. H., Application of fully implicit coupled method for 2D incompressible flows on unstructured grids, Postgraduate, Ş.ZENGİN(Student), 2012
- TARMAN I. H., Numerical study of Rayleigh Bènard thermal convection via solenoidal bases, Doctorate, C.Yıldırım(Student), 2011
- TARMAN I. H., Numerical simulation of thermal convection under the influence of a magnetic field by using solenoidal bases, Doctorate, D.Yarımpabuç(Student), 2011
- TARMAN I. H., Dynamic analysis of flow in two dimensional flow, Postgraduate, E.Engin(Student), 2008
- TARMAN I. H., A study of natural convection in molten metal under a magnetic field, Doctorate, E.Güray(Student), 2006
- TARMAN I. H., Dynamics of wall bounded turbulence /, Postgraduate, O.Tuğluk(Student), 2005
- TARMAN I. H., Vibration exposure of front seat car passengers, Postgraduate, T.Erol(Student), 2004

Journal articles indexed in SCI, SSCI, and AHCI

- I. **Two-dimensional computational modeling of thin film evaporation**
Akkuş Y., Tarman H. I., Cetin B., Dursunkaya Z.
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.121, pp.237-248, 2017 (SCI-Expanded)
- II. **Numerical simulations of thermal convection under the influence of an inclined magnetic field by using solenoidal bases**
Yarımpabuç D., TARMAN I. H., Yildirim C.
MATHEMATICAL METHODS IN THE APPLIED SCIENCES, vol.37, no.18, pp.2962-2971, 2014 (SCI-Expanded)
- III. **Photonic Nanojet Analysis by Spectral Element Method**
Mahariq I., KUZUOĞLU M., TARMAN I. H., KURT H.
IEEE PHOTONICS JOURNAL, vol.6, no.5, 2014 (SCI-Expanded)
- IV. **On the Attenuation of the Perfectly Matched Layer in Electromagnetic Scattering Problems with the Spectral Element Method**
Mahariq I., KUZUOĞLU M., TARMAN I. H.
APPLIED COMPUTATIONAL ELECTROMAGNETICS SOCIETY JOURNAL, vol.29, no.9, pp.701-710, 2014 (SCI-Expanded)
- V. **A Spectral Solenoidal-Galerkin Method for Rotating Thermal Convection between Rigid Plates**
Yildirim C., YARIMPABUÇ D., Tarman H. I.
MATHEMATICAL PROBLEMS IN ENGINEERING, vol.2013, 2013 (SCI-Expanded)
- VI. **The numerical study of pumping configurations on the lasing efficiency in photonic crystal fiber Raman laser**
Berberoglu H., TARMAN I. H.

- OPTIK, vol.124, no.6, pp.522-525, 2013 (SCI-Expanded)
- VII. **Direct numerical simulation of pipe flow using a solenoidal spectral method**
Tugluk O., TARMAN I. H.
ACTA MECHANICA, vol.223, no.5, pp.923-935, 2012 (SCI-Expanded)
- VIII. **Solenoidal bases for numerical studies of transition in pipe flow**
Tugluk O., TARMAN I. H.
PHYSICA SCRIPTA, vol.T142, 2010 (SCI-Expanded)
- IX. **Variational Approach to Power Evolution in Cascaded Fiber Raman Laser**
TARMAN I. H., Berberoglu H.
JOURNAL OF LIGHTWAVE TECHNOLOGY, vol.28, no.21, pp.3136-3141, 2010 (SCI-Expanded)
- X. **Efficient Numerical Algorithm for Cascaded Raman Fiber Lasers Using a Spectral Method**
TARMAN I. H., Berberoglu H.
JOURNAL OF LIGHTWAVE TECHNOLOGY, vol.27, no.13, pp.2289-2295, 2009 (SCI-Expanded)
- XI. **A spectral collocation algorithm for two-point boundary value problem in fiber Raman amplifier equations**
TARMAN I. H., Berberoglu H.
OPTICS COMMUNICATIONS, vol.282, no.8, pp.1551-1556, 2009 (SCI-Expanded)
- XII. **Thermal convection in the presence of a vertical magnetic field**
Guray E., Tarman H. I.
ACTA MECHANICA, vol.194, no.1-4, pp.33-46, 2007 (SCI-Expanded)
- XIII. **Transitional dynamics in thermal convection between rigid plates**
Yildirim C., Yarimpabuc D., Tarman H. I.
JOURNAL OF VIBRATION AND CONTROL, vol.13, no.9-10, pp.1331-1342, 2007 (SCI-Expanded)
- XIV. **A Karhunen-Loeve-based approach to numerical simulation of transition in Rayleigh-Benard convection**
Tarman H.
NUMERICAL HEAT TRANSFER PART B-FUNDAMENTALS, vol.43, no.6, pp.567-586, 2003 (SCI-Expanded)
- XV. **The gravitational effect on induced charge density for an obliquely rotating neutron star**
De Paolis F., Qadir A., Tarman I. H.
NUOVO CIMENTO DELLA SOCIETA ITALIANA DI FISICA B-GENERAL PHYSICS RELATIVITY ASTRONOMY AND MATHEMATICAL PHYSICS AND METHODS, vol.114, no.11, pp.1281-1286, 1999 (SCI-Expanded)
- XVI. **Extensions to Karhunen-Loeve based approximation of complicated phenomena**
Tarman I. H., Sirovich L.
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING, vol.155, no.3-4, pp.359-368, 1998 (SCI-Expanded)
- XVII. **An improved dynamical approximation to Boussinesq equation using Karhunen-Loeve basis**
Tarman I. H.
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING, vol.144, no.1-2, pp.153-162, 1997 (SCI-Expanded)
- XVIII. **A Karhunen-Loeve based galerkin approximation to Boussinesq equation**
Tarman I. H.
COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING, vol.137, no.3-4, pp.275-284, 1996 (SCI-Expanded)
- XIX. **A Karhunen-Loeve analysis of turbulent thermal convection**
Tarman I. H.
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS, vol.22, no.1, pp.67-79, 1996 (SCI-Expanded)

Articles Published in Other Journals

- I. **Numerical simulation of duct flow in the presence of participating media radiation with total energy**

based entropic lattice Boltzmann method

Gümüŝsu E., TARMAN I. H.

International Journal of Thermofluids, vol.20, 2023 (Scopus)

II. On the Accuracy of Spectral Element Method in Electromagnetic Scattering Problems

Mahariq İ., TARMAN I. H., KUZUOĞLU M.

International Journal of Computer Theory and Engineering, vol.6, no.6, pp.495-499, 2014 (Peer-Reviewed Journal)

Books

I. Lecture Notes in Computational Science and Engineering

Tarman I. H.

Springer, London/Berlin , Bergen, 2019

Papers Presented at Peer-Reviewed Scientific Conferences

I. A Spectral Solenoidal-Galerkin Method for Flow Past a CircularCylinder

TARMAN I. H.

European Conference on Numerical Mathematics and Advanced Applications (ENUMATH 2017), 25 - 29 September 2017

II. A Solenoidal Galerkin Approach for the Numerical Simulation of Flow Past a Circular Cylinder

TARMAN I. H.

International Conference On Boundary Element And Meshless Techniques, 11 - 13 July 2016

III. POD based Models for Drag Reduction in Turbulent Pipe Flow

Tuğluk O., TARMAN I. H.

International Conference On Boundary Element And Meshless Techniques, 11 - 13 July 2016

IV. Drag Reduction via Phase Randomization in Turbulent Pipe Flow

Tugluk O., Tarman H. I.

European Conference on Numerical Mathematics and Advanced Applications (ENUMATH), Ankara, Turkey, 14 - 18 September 2015, vol.112, pp.463-470

V. A spectral Petrov-Galerkin method for thermal convection between rigid plates

YILDIRIM YÜCEL C., TARMAN I. H.

6th International Symposium on Turbulence, Heat and Mass Transfer, Rome, Italy, 14 - 18 September 2009, pp.213-216

VI. Numerical Simulation of Flow through Stenotic Artery

Tarman H. I.

14th National Biomedical Engineering Meeting, İzmir, Turkey, 20 - 22 May 2009, pp.531-533, (Full Text)

VII. Vibration Exposure of Front Seat Car Passengers

Erol T., Birlik G., sezgin ö., TARMAN I. H.

39th Meeting of the UK Group on Human Response to Vibration, 15 - 17 September 2004

VIII. Heat transport in transitional regimes of thermal convection

Tarman H.

2nd Trabzon International Energy and Environment Symposium, Trabzon, Turkey, 26 - 29 July 1998, pp.375-379, (Full Text)

IX. A parametric study of Rayleigh Benard convection using a Karhunen Loeve basis

TARMAN I. H., Sirovich L.

11th Symposium on Turbulent Shear Flow, Grenoble, France, 8 - 11 September 1997

X. Analysis of turbulent thermal convection

Sirovich L., Maxey M., TARMAN I. H.

6th symposium on turbulent shear flow, France, 7 - 09 September 1987

Metrics

Publication: 32

Citation (WoS): 161

Citation (Scopus): 187

H-Index (WoS): 6

H-Index (Scopus): 6

Non Academic Experience

METU, Associate Professor (Promotion)

METU, Assistant Professor

METU, Associate Professor (Title)

King Fahd University of Petroleum and Minerals, Assistant Professor

Brown University, Post-Doctoral Research Associate

Brown University, Assistant

Boğaziçi University, Assistant