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Personal Information

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Education Information

Doctorate, Middle East Technical University, Uygulamalı Matematik Enstitüsü, Bilimsel Hesaplamalar, Turkey 2004 - 2008

Postgraduate, Middle East Technical University, Fen Bilimleri Enstitüsü, Matematik, Turkey 1997 - 2000

Undergraduate, Middle East Technical University, Fen Edebiyat Fakültesi, Matematik, Turkey 1992 - 1997

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, The finite element method over a simple stabilizing grid applied to fluid flow problems, Middle East Technical University, Uygulamalı Matematik Enstitüsü, Bilimsel Hesaplamalar, 2008

Postgraduate, Dual reciprocity boundary element method for Poisson's equations using oscillatory radial basis functions, Middle East Technical University, Fen Bilimleri Enstitüsü, Matematik, 2000

Research Areas

Mathematics, Differential Equations, Partial Differential Equations, Numerical Analysis, Natural Sciences

Academic Titles / Tasks

Professor, Karadeniz Technical University, Fen Fakültesi, Matematik, 2018 - Continues

Associate Professor, Karadeniz Technical University, Fen Fakültesi, Matematik, 2013 - 2018

Assistant Professor, Karadeniz Technical University, Fen-Edebiyat Fakültesi, Matematik, 2009 - 2013

Advising Theses

AYDIN S. H. , Stabilize Sonlu Elemanlar Yöntemi İle Adaptif Ağ Oluşturma, Postgraduate, M.Ceylan(Student), 2014

AYDIN S. H. , Değişken Difüzyon Katsayılı Konveksiyon-Difüzyon Denklemlerinin Sonlu Elemanlar Yöntemi ile Çözümü, Postgraduate, C.ÇİFTÇİ(Student), 2012

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **Accretive growth kinematics in Minkowski 3-space**
TUĞ G., Ozdemir Z., AYDIN S. H. , EKMEKÇİ F. N.
INTERNATIONAL JOURNAL OF GEOMETRIC METHODS IN MODERN PHYSICS, vol.14, no.5, 2017 (Journal Indexed in SCI)
- II. **Free-Space Fundamental Solution of a 2D Steady Slow Viscous MHD Flow**
AYDIN S. H. , Sellier A., Tezer-Sugin M.
CMES-COMPUTER MODELING IN ENGINEERING, vol.102, no.5, pp.393-406, 2014 (Journal Indexed in SCI Expanded)
- III. **A DRBEM solution for MHD pipe flow in a conducting medium**
AYDIN S. H. , Tezer-Sezgin M.
JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.259, pp.720-729, 2014 (Journal Indexed in SCI)
- IV. **Topological flow structures in an L-shaped cavity with horizontal motion of the upper lid**
DELİCEOĞLU A., AYDIN S. H.
JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS, vol.259, pp.937-943, 2014 (Journal Indexed in SCI)
- V. **BEM solution of MHD flow in a pipe coupled with magnetic induction of exterior region**
Tezer-Sezgin M., AYDIN S. H.
COMPUTING, vol.95, no.1, 2013 (Journal Indexed in SCI)
- VI. **Flow bifurcation and eddy genesis in an L-shaped cavity**
DELİCEOĞLU A., AYDIN S. H.
COMPUTERS & FLUIDS, vol.73, pp.24-46, 2013 (Journal Indexed in SCI)
- VII. **gVS gamma coupling constant in light cone QCD**
AYDIN C., AYDIN S. H. , Keskin F., YILMAZ A. H.
PHYSICAL REVIEW D, vol.84, no.9, 2011 (Journal Indexed in SCI)
- VIII. **Two-Level Finite Element Method with a Stabilizing Subgrid for the Natural Convection Flow Simulation in Different Geometries**
Aydin S. H.
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.59, no.10, pp.799-813, 2011 (Journal Indexed in SCI)
- IX. **Two-level finite element method with a stabilizing subgrid for the incompressible MHD equations**
Aydin S. H. , Nesliturk A. I. , Tezer-Sezgin M.
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS, vol.62, no.2, pp.188-210, 2010 (Journal Indexed in SCI)
- X. **Two-level finite element method with a stabilizing subgrid for the incompressible Navier-Stokes equations**
Nesliturk A. I. , Aydin S. H. , Tezer-Suzgin M.
INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS, vol.58, no.5, pp.551-572, 2008 (Journal Indexed in SCI)
- XI. **Solution of magnetohydrodynamic flow problems using the boundary element method**
Tezer-Sugin M., Aydin S. H.
ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS, vol.30, no.5, pp.411-418, 2006 (Journal Indexed in SCI)
- XII. **Dual reciprocity boundary element method for magnetohydrodynamic flow using radial basis functions**
Tezer-Sezgin M., Aydin S. H.
INTERNATIONAL JOURNAL OF COMPUTATIONAL FLUID DYNAMICS, vol.16, no.1, pp.49-63, 2002 (Journal Indexed in SCI)

Articles Published in Other Journals

- I. **Stabilized FEM Solution of Variable Coefficient Convection Diffusion Equation**
AYDIN S. H.
International Journal of Applied Mathematics, vol.29, no.3, pp.371-380, 2016 (Refereed Journals of Other

Institutions)

- II. **FEM-BEM Coupling for the MHD Pipe Flow in an Exterior Region**
AYDIN S. H.
Open Journal of Fluid Dynamics, vol.3, pp.184-190, 2013 (Refereed Journals of Other Institutions)
- III. **Numerical Solutions of Grad-Shafranov equation for the distribution of magnetic flux in nuclear fusion devices**
AYDIN S. H. , TEZER SEZGİN M.
Turkish J. Eng. Env. Sci., vol.32, pp.265-275, 2008 (Refereed Journals of Other Institutions)
- IV. **Numerical solution of magnetohydrodynamic flow problems using boundary element method**
AYDIN S. H. , TEZER SEZGİN M.
WIT Transaction on Modeling and Simulation, vol.39, pp.31-39, 2005 (Refereed Journals of Other Institutions)

Refereed Congress / Symposium Publications in Proceedings

- I. **Particle-wall interactions axisymmetric MHD viscous**
sellier a., AYDIN S. H.
BETEQ 2018, International Conference on Boundary Element and Meshless Techniques, 9 - 11 July 2018
- II. **Particle-particle interactions in axisymmetric MHD creeping flow**
AYDIN S. H. , sellier a.
IABEM 2018, 26 - 28 June 2018
- III. **Fundamental three-dimensional MHD creeping flow bounded by a plane motionless wall normal to a uniform ambient magnetic field**
SELLIER A., AYDIN S. H.
BETEQ 2017, Bükreş, Romania, 11 - 13 July 2017
- IV. **Particle-particle interactions in axisymmetric MHD viscous flow**
AYDIN S. H. , SELLIER A.
BETEQ 2017, Bükreş, Romania, 11 - 13 July 2017
- V. **Viscous axisymmetric MHD flow about a solid sphere translating in a circular solid tube**
ÇELİK T., AYDIN S. H. , SELLIER A.
BETEQ 2017, Bükreş, Romania, 11 - 13 July 2017
- VI. **FEM solution of MHD flow in rectangular ducts with different wall conductivities and slip conditions**
TEZER M., AYDIN S. H.
2017 EMI International Conference, 19 - 22 March 2017
- VII. **A boundary formulation for the axisymmetric MHD slow viscous flow about a sphere translating parallel with a uniform ambient magnetic field**
SELLIER A., AYDIN S. H.
BETEQ 2016, International Conference on Boundary Element and Meshless Techniques, 11 - 13 July 2016
- VIII. **Particle particle interactions in 2D MHD viscous flow**
AYDIN S. H. , SELLIER A.
BETEQ 2016, International Conference on Boundary Element and Meshless Techniques, 11 - 13 July 2016
- IX. **Creeping axisymmetric MHD flow about a sphere translating parallel with a uniform ambient magnetic field**
SELLIER A., AYDIN S. H.
PAMIR 2016, 10th PAMIR International Conference Fundamental and Applied MHD, 20 - 24 June 2016
- X. **FEM BEM Coupled Solution of MHD Pipe Flow**
AYDIN S. H. , SELVİTOPI H.
PAMIR 2016, 10th PAMIR International Conference Fundamental and Applied MHD, 20 - 24 June 2016
- XI. **Stabilized FEM Solution of 2D Steady Slow Viscous MHD Flow of an Unbounded Conducting Liquid About Solid Particles**
TEZER M., AYDIN S. H. , SELLIER A.

PAMIR 2016, 10th PAMIR International Conference Fundamental and Applied MHD, 20 - 24 June 2016

- XII. **Adaptive Mesh Generation Using Stabilized Finite Element Method**
AYDIN S. H. , Erdoğan M. C.
ENUMATH 2015 European Conference on Numerical Mathematics and Advanced Applications, Ankara, Turkey, 14 - 18 September 2015, pp.95
- XIII. **A New Boundary Approach for the 2D Viscous MHD Flow About a Solid Particle**
Sellier A., AYDIN S. H. , TEZER SEZGİN M.
ENUMATH 2015 European Conference on Numerical Mathematics and Advanced Applications, Ankara, Turkey, 14 - 18 September 2015, pp.114
- XIV. **A new BEM approach for the slow 2D MHD flow about interacting solid particles**
Sellier A., AYDIN S. H. , Tezer-Sezgin M.
BETEQ 2015, International Conference on Boundary Element and Meshless Techniques, Valencia, Spain, 6 - 08 July 2015, pp.126-132
- XV. **BEM Solution of MHD Pipe Flow Around a Conducting Cylindrical Solid and Inside an Insulating or Conducting Medium**
AYDIN S. H. , TEZER SEZGİN M.
BETEQ 2014, International Conference on Boundary Element and Meshless Techniques, Floransa, Italy, 15 - 17 July 2014, pp.67-70
- XVI. **A New Boundary Approach for the 2D Slow Viscous MHD Flow of a Conducting Liquid About a Solid Particle**
AYDIN S. H. , TEZER SEZGİN M., Sellier A.
BETEQ 2014, International Conference on Boundary Element and Meshless Techniques, Floransa, Italy, 15 - 17 July 2014, pp.98-101
- XVII. **Stabilized FEM-BEM Solutions of MHD Flow in an Annular Pipe**
AYDIN S. H.
BETEQ 2014, International Conference on Boundary Element and Meshless Techniques, Floransa, Italy, 15 - 17 July 2014, pp.10-12
- XVIII. **FEM Solution of MHD Flow Equations Coupled on a Pipe Wall in a Conducting Medium**
AYDIN S. H. , TEZER SEZGİN M.
PAMIR 2014, International Conference Fundamental and Applied MHD, Uppsala, Lithuania, 16 - 20 June 2014, pp.98-101
- XIX. **Upwind Finite Difference Solution of MHD Pipe Flow in an Exterior Conducting Region using Shishkin and Bakhvalov Typed Layer Adapted Grids**
AYDIN S. H.
PAMIR 2014, International Conference Fundamental and Applied MHD, Riga, Lithuania, 16 - 20 June 2014, pp.90-94
- XX. **The Method of Fundamental Solutions of MHD Pipe Flow in an Exterior Region**
AYDIN S. H.
BETEQ 2013, International Conference on Boundary Element and Meshless Techniques, Paris, France, 16 - 18 July 2013, pp.67-70
- XXI. **DRBEM Solution of MHD Pipe Flow in a Conducting Medium**
AYDIN S. H. , TEZER SEZGİN M.
ICACM International Conference on Applied and Computational Mathematics, Ankara, Turkey, 3 - 06 October 2012, pp.67
- XXII. **Flow structures in an L-shaped cavity with the vertical motion of the upper lid**
AYDIN S. H. , Deliceoglu A.
ICACM International Conference on Applied and Computational Mathematics, Ankara, Turkey, 3 - 06 October 2012, pp.46
- XXIII. **The Finite Element Method Solution of Variable Diffusion Coefficient Convection-Diffusion Equations**
AYDIN S. H. , Ciftci C.
1st International Conference on Analysis and Applied Mathematics (ICAAM), Gümüşhane, Turkey, 18 - 21 October

2012, vol.1470, pp.228-231

- XXIV. **Flow simulation around obstacles of different geometries**
AYDIN S. H.
ICAAA 2011 International Conference on Applied Analysis and Algebra, İstanbul, Turkey, 29 June - 02 July 2011, pp.45
- XXV. **Stabilized FEM Solution of Steady Natural Convection Flow in a Square Cavity**
AYDIN S. H.
CCAM 2010, The 15th edition of the International Congress on Computational and Applied Mathematics, Leuven, Belgium, 5 - 09 July 2010, pp.1
- XXVI. **Solution of Navier-Stokes Equations Using FEM with Stabilizing Subgrid**
AYDIN S. H. , Neslitürk A. I. , TEZER SEZGİN M.
ENUMATH 2009, The 8th European Conference on Numerical Mathematics and Advanced Applications
ENUMATH 2009, The 8th European Conference on Numerical Mathematics and Advanced Applications, Uppsala, Sweden, 29 June - 03 July 2009, pp.42-47
- XXVII. **Flow bifurcation and eddy genesis in a L-shape cavity**
AYDIN S. H. , Deliceoglu A.
ICAAA 2011 International Conference on Applied Analysis and Algebra, İstanbul, Turkey, 29 June 2009 - 02 July 2011, pp.55
- XXVIII. **BEM Solution of MHD Flow in Ducts with Arbitrarily Conducting Walls**
AYDIN S. H.
UKBIM 6 Proceedings of the 6th UK Conference on Boundary Integral Methods, Durham, United Kingdom, 17 - 18 September 2007, pp.1-4
- XXIX. **Dual Reciprocity BEM Solution of Grad-Shafranov Equation for the Distribution of Magnetic Flux in Nuclear Fusion Devices**
AYDIN S. H.
IABEM-2006 International Association for Boundary Element Methods 2006, Graz, Austria, 10 - 12 July 2006, pp.10-12
- XXX. **Numerical Solution of MHD Flow Problems Using Boundary Element Method**
AYDIN S. H. , TEZER SEZGİN M.
BEM/MRM 27 World Conf. On Boundary Elements and Other Mesh Reduction Methods, Orlando, United States Of America, 15 - 17 March 2005, pp.31-39

Citations

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