

## Prof. İSMAİL RAFATOV

### Personal Information

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### International Researcher IDs

ScholarID: [hsKX7WgAAAAJ](https://orcid.org/hsKX7WgAAAAJ)

ORCID: 0000-0002-8303-9204

Publons / Web Of Science ResearcherID: B-9380-2011

ScopusID: 56304125800

Yoksis Researcher ID: 163457

### Education Information

Doctorate, Kirgizistan-Rusya Slav Üniversitesi, Fizik, Kırgızstan 1995 - 1999

Undergraduate, Yusuf Balasagin Kirgiz Milli Üniversitesi, Uygulamalı Matematik, Kırgızstan 1990 - 1995

### Foreign Languages

English, B2 Upper Intermediate

Russian, C1 Advanced

### Dissertations

Doctorate, Mathematical modelling of interaction of electromagnetic fields with plasma in a spherical microwave discharge, Kirgizistan-Rusya Slav Üniversitesi, Fizik, 1999

### Research Areas

Basic Sciences, Physics, Gases, Plasmas and Electrical Discharges Physics, Physics of Plasmas

### Academic Titles / Tasks

Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2018 - Continues

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2010 - 2018

Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Physics, 2005 - 2009

Assistant Professor, Canakkale Onsekiz Mart University, Fen Ve Edebiyat Fakültesi, Matematik Bölümü, 2001 - 2002

## Courses

Mathematical Methods in Physics I, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
COMPUTATIONAL METHODS IN PLASMA PHYSICS, Postgraduate, 2022 - 2023, 2020 - 2021, 2017 - 2018  
METHODS OF MATHEMATICAL PHYSICS I, Postgraduate, 2022 - 2023, 2017 - 2018  
METHODS OF MATHEMATICAL PHYSICS I, Postgraduate, 2021 - 2022, 2020 - 2021, 2019 - 2020  
MATHEMATICAL METHODS IN PHYSICS I, Undergraduate, 2021 - 2022, 2020 - 2021, 2018 - 2019  
Introduction to Plasma Physics, Undergraduate, 2020 - 2021  
MATHEMATICAL METHODS IN PHYSICS II, Undergraduate, 2019 - 2020  
BASIC LINEAR ALGEBRA, Undergraduate, 2018 - 2019, 2016 - 2017  
METHODS OF MATHEMATICAL PHYSICS II, Doctorate, 2018 - 2019  
MATHEMATICAL METHODS IN PHYSICS II, Undergraduate, 2017 - 2018  
BASIC LINEAR ALGEBRA, Undergraduate, 2018 - 2019  
SPECIAL PROBLEMS IN PHYSICS, Undergraduate, 2018 - 2019, 2017 - 2018  
METHODS OF MATHEMATICAL PHYSICS II, Doctorate, 2017 - 2018  
METHODS OF MATHEMATICAL PHYSICS II, Postgraduate, 2018 - 2019, 2017 - 2018

## Advising Theses

Rafatov I., Optical system design of hyperspectral space-borne electro-optic imager for micro-satellite platforms, Doctorate, Z.NİLÜFER(Student), 2023  
Rafatov I., Development and benchmark of an electrostatic PIC/MCC numerical code for simulation of gas discharge plasmas, Postgraduate, İ.ARDA(Student), 2023  
Rafatov I., Comprehensive investigation of plasma behavior in diverse gas discharge phenomena: Fluid modeling, chaotic dynamics, and synchronization, Doctorate, C.YEŞİL(Student), 2023  
RAFATOV İ., Numerical investigation of Dbd in neon: Effect of fluid modelling approaches, Postgraduate, M.HİLMİ(Student), 2021  
RAFATOV İ., Investigation of nonlinear oscillations in the gas discharge-semiconductor system: Effect of different fluid modelling approaches, Postgraduate, C.YEŞİL(Student), 2018  
RAFATOV İ., Numerical analysis of plasma properties in the glow discharge: Accuracy and applicability of simple and extended fluid models, Postgraduate, K.KAYMAZLAR(Student), 2017  
RAFATOV İ., Derivation of the parallel PIC/MCC numerical code and its application to the kinetic analysis of photoresonance plasma and the problem of identification of impurities within the PLES method, Doctorate, C.KUŞOĞLU(Student), 2017  
KARASÖZEN B., RAFATOV İ., Numerical modelling of spatio-temporal patterns in a DC-driven gas discharge-semiconductor system, Postgraduate, G.ÖZDEN(Student), 2015  
RAFATOV İ., ALEMDAROĞLU H. N., One dimensional numerical analysis of plasma properties in the discharge channel of a Hall effect thruster, Postgraduate, Ç.YÜNCÜLER(Student), 2014  
RAFATOV İ., Simulation of glow discharge plasmas by using parallel particle in cell/Monte Carlo collision method: The effects of number of super particles used in the simulations, Postgraduate, E.ERDEN(Student), 2013  
RAFATOV İ., Numerical investigation of self-organization and stable burning conditions of moderate pressure glow discharges in argon gas, Postgraduate, E.EYLENCEOĞLU(Student), 2011  
RAFATOV İ., Numerical investigation of a DC glow discharge in an argon gas: Two-component plasma model, Postgraduate, E.KEMANECİ(Student), 2009

## Jury Memberships

Associate Professor Exam, Associate Professor Exam, Middle East Technical University, October, 2020

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Complex dynamics in an atmospheric pressure glow discharge in helium: transition from stationary to periodic oscillatory, and fully chaotic states**  
Wang Y., Gorqid A., Kudryavtsev A., Yao J., Yuan C., Zhou Z., Rafatov İ.  
PHYSICA SCRIPTA, vol.99, no.12, pp.1-14, 2024 (SCI-Expanded)
- II. **On fundamental inconsistencies in a commonly used modification of a fluid model for glow discharge**  
Zhou C., RAFATOV İ., Wang Y., Kudryavtsev A., Yuan C., Yao J., Zhou Z.  
Plasma Sources Science and Technology, vol.33, no.7, 2024 (SCI-Expanded)
- III. **Effect of the cathode surface temperature on the cathode fall layer parameters: experiment and simulation**  
Simonchik L., Tomkavich M., Islamov G., Eylenceoglu E., RAFATOV İ.  
Plasma Sources Science and Technology, vol.33, no.2, 2024 (SCI-Expanded)
- IV. **Analysis of different modeling approaches for simulation of glow discharge in helium at atmospheric pressure**  
Rafatov I., Islamov G., Eylenceoglu E., Yesil C., Bogdanov E.  
PHYSICS OF PLASMAS, vol.30, no.9, pp.1-10, 2023 (SCI-Expanded)
- V. **Self-consistent treatment of gas heating in modeling of a coaxial DBD in atmospheric pressure CO<sub>2</sub>**  
Zhou C., Yuan C., Kudryavtsev A., Yasar Katircioglu T., RAFATOV İ., Yao J.  
PLASMA SOURCES SCIENCE & TECHNOLOGY, vol.32, no.1, 2023 (SCI-Expanded)
- VI. **Parametric study of coaxial dielectric barrier discharge in atmospheric pressure argon**  
Li H., Yuan C., Kudryavtsev A., Katircioglu T. Y., RAFATOV İ.  
PHYSICS OF PLASMAS, vol.28, no.11, 2021 (SCI-Expanded)
- VII. **Analysis of parameters of coaxial dielectric barrier discharges in argon flow at atmospheric pressure**  
Li H., Yuan C., Kudryavtsev A., Astafiev A., Bogdanov E., Katircioglu T. Y., RAFATOV İ.  
JOURNAL OF APPLIED PHYSICS, vol.129, no.15, 2021 (SCI-Expanded)
- VIII. **Transition from periodic to chaotic oscillations in a planar gas discharge-semiconductor system**  
Yuan C., YEŞİL C., Yao J., Zhou Z., RAFATOV İ.  
PLASMA SOURCES SCIENCE & TECHNOLOGY, vol.29, no.6, 2020 (SCI-Expanded)
- IX. **Numerical evidence of spontaneous division of dissipative solitons in a planar gas discharge-semiconductor system**  
RAFATOV İ.  
PHYSICS OF PLASMAS, vol.26, no.9, 2019 (SCI-Expanded)
- X. **Transition from homogeneous stationary to oscillating state in planar gas discharge-semiconductor system in nitrogen: Effect of fluid modelling approach**  
RAFATOV İ., YEŞİL C.  
PHYSICS OF PLASMAS, vol.25, no.8, 2018 (SCI-Expanded)
- XI. **PIC/MCC analysis of a photoresonance plasma sustained in a sodium vapor**  
SARIKAYA C. K., RAFATOV İ., KUDRYAVTSEV A. A.  
PHYSICS OF PLASMAS, vol.24, no.8, 2017 (SCI-Expanded)
- XII. **An evidence of period doubling bifurcation in a dc driven semiconductor-gas discharge plasma**  
MANSUROGLU D., UZUN-KAYMAK I. U., RAFATOV İ.  
PHYSICS OF PLASMAS, vol.24, no.5, 2017 (SCI-Expanded)
- XIII. **Spectroscopic study and numerical simulation of low-pressure radio-frequency capacitive discharge with argon downstream**  
Tanisli M., RAFATOV İ., Sahin N., Mertadam S., Demir S.  
CANADIAN JOURNAL OF PHYSICS, vol.95, no.2, pp.190-200, 2017 (SCI-Expanded)
- XIV. **Multiple stationary filamentary states in a planar dc-driven gas discharge-semiconductor system**  
RAFATOV İ.  
PHYSICS OF PLASMAS, vol.23, no.12, 2016 (SCI-Expanded)
- XV. **Three-dimensional numerical modelling of temporal and spatial pattern formation in a dc-driven gas discharge-semiconductor system**

- RAFATOV I.  
PLASMA SOURCES SCIENCE & TECHNOLOGY, vol.25, no.6, 2016 (SCI-Expanded)
- XVI. **Particle in cell/Monte Carlo collision analysis of the problem of identification of impurities in the gas by the plasma electron spectroscopy method**  
SARIKAYA C. K., RAFATOV I., KUDRYAVTSEV A. A.  
PHYSICS OF PLASMAS, vol.23, no.6, 2016 (SCI-Expanded)
- XVII. **Two-dimensional hybrid Monte Carlo-fluid modelling of dc glow discharges: Comparison with fluid models, reliability, and accuracy**  
EYLENCEOGLU E., RAFATOV I., KUDRYAVTSEV A. A.  
PHYSICS OF PLASMAS, vol.22, no.1, 2015 (SCI-Expanded)
- XVIII. **Extension of spatiotemporal chaos in glow discharge-semiconductor systems**  
AKHMET M., RAFATOV I., FEN M. O.  
CHAOS, vol.24, no.4, 2014 (SCI-Expanded)
- XIX. **Particle in Cell/Monte Carlo Collision Method for Simulation of RF Glow Discharges: Effect of Super Particle Weighting**  
ERDEN E., RAFATOV I.  
CONTRIBUTIONS TO PLASMA PHYSICS, vol.54, no.7, pp.626-634, 2014 (SCI-Expanded)
- XX. **Account of nonlocal ionization by fast electrons in the fluid models of a direct current glow discharge**  
RAFATOV I., BOGDANOV E. A., KUDRYAVTSEV A. A.  
PHYSICS OF PLASMAS, vol.19, no.9, 2012 (SCI-Expanded)
- XXI. **On the accuracy and reliability of different fluid models of the direct current glow discharge**  
RAFATOV I., BOGDANOV E. A., KUDRYAVTSEV A. A.  
PHYSICS OF PLASMAS, vol.19, no.3, 2012 (SCI-Expanded)
- XXII. **Effect of focusing geometry on the continuous optical discharge properties**  
Rafatov I.  
PHYSICS LETTERS A, vol.373, no.37, pp.3336-3341, 2009 (SCI-Expanded)
- XXIII. **Radiative gas-dynamic model of a continuous optical discharge in a gravitational field: quasi-optical approximation**  
Rafatov I.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.42, no.15, 2009 (SCI-Expanded)
- XXIV. **Modelling of a continuous optical discharge stabilized by a gas flow in quasi-optical approximation**  
RAFATOV I., YEDIERLER B., KULUMBAEV E. B.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.42, no.5, 2009 (SCI-Expanded)
- XXV. **Spatiotemporal patterns in a dc semiconductor-gas-discharge system: Stability analysis and full numerical solutions**  
Rafatov I. R., SIJACIC D. D., EBERT U.  
PHYSICAL REVIEW E, vol.76, no.3, 2007 (SCI-Expanded)
- XXVI. **Modelling of non-uniform DC driven glow discharge in argon gas**  
Rafatov I. R., AKBAR D., BILIKMEN S.  
PHYSICS LETTERS A, vol.367, pp.114-119, 2007 (SCI-Expanded)
- XXVII. **On modelling of microwave heating of a ceramic material**  
KOZLOV P. V., Rafatov I. R., KULUMBAEV E. B., LELEVKIN V. M.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.40, no.9, pp.2927-2935, 2007 (SCI-Expanded)
- XXVIII. **On the modelling of a nonequilibrium spherical microwave discharge at atmospheric pressure**  
Rafatov I. R.  
CONTRIBUTIONS TO PLASMA PHYSICS, vol.47, no.3, pp.139-146, 2007 (SCI-Expanded)
- XXIX. **Self-consistent model of thermal and ionization non-equilibrium spherical microwave discharge**  
Rafatov I., LELEVKIN V.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.38, no.13, pp.2227-2236, 2005 (SCI-Expanded)
- XXX. **Oscillations in dc driven barrier discharges: Numerical solutions, stability analysis, and phase**

## **diagram**

SIJACIC D., EBERT U., Rafatov I.

PHYSICAL REVIEW E, vol.71, no.6, 2005 (SCI-Expanded)

### **XXXI. Modelling of a nonequilibrium spherical electric discharge under higher modes of incident microwaves**

Rafatov I., ÇAKIR S.

PHYSICS LETTERS A, vol.338, pp.353-365, 2005 (SCI-Expanded)

### **XXXII. Modelling of a spherical electric discharge at atmospheric pressure under higher modes of incident microwaves**

Rafatov I., KOZLOV P., LELEVKIN V.

CONTRIBUTIONS TO PLASMA PHYSICS, vol.45, no.2, pp.139-154, 2005 (SCI-Expanded)

### **XXXIII. Period doubling cascade in glow discharges: Local versus global differential conductivity**

SIJACIC D., EBERT U., Rafatov I.

PHYSICAL REVIEW E, vol.70, no.5, 2004 (SCI-Expanded)

### **XXXIV. Self-consistent model of non-equilibrium spherical microwave discharge**

Rafatov I., LELEVKIN V.

JOURNAL OF PHYSICS D-APPLIED PHYSICS, vol.37, no.20, pp.2876-2885, 2004 (SCI-Expanded)

## **Articles Published in Other Journals**

### **I. Development and benchmark of a 1d3v electrostatic PIC/MCC numerical code for gas discharge simulations**

Arda I., Rafatov I.

TURKISH JOURNAL OF PHYSICS, vol.47, pp.198-213, 2023 (ESCI)

### **II. One-dimensional fluid and hybrid numerical analysis of the plasma properties in the discharge channel of a Hall thruster**

YUNCULER C., RAFATOV İ., Ulusen D.

TURKISH JOURNAL OF PHYSICS, vol.42, no.6, pp.649-658, 2018 (ESCI)

### **III. VALIDATION OF THE PARTICLE IN CELL MONTE CARLO COLLISION NUMERICAL CODE FOR THE RF DISCHARGE SIMULATION**

KUŞOĞLU SARIKAYA C., RAFATOV İ., ÇAKIR S.

Balkan Physics Letters, vol.24, pp.36-47, 2016 (Peer-Reviewed Journal)

### **IV. Difference schemes for the class of singularly perturbed boundary value problems**

Sklyar S. N., RAFATOV İ.

Applied Numerical Analysis & Computational Mathematics, vol.1, no.1, pp.223-230, 2004 (Peer-Reviewed Journal)

## **Books & Book Chapters**

### **I. Sayısal Yöntemler**

Rafatov I., Yedierler B., Erözbeğ GÜNGÖR Ü., Çakir S. (Editor)

in: Maddenin 4. Hali: Plazma: Temelleri Ve Uygulamaları, Serhat Çakır, Editor, Arkadaş Yayınevi, Ankara, pp.143-224, 2023

### **II. Introduction to Simulation Methods for Gas Discharge Plasmas**

Rafatov İ., Kudryavtsev A.

Institute of Physics Publishing (IOP) , Bristol, 2020

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **On the conditions of applicability of commonly used modification of a fluid model for glow discharge**  
Kudryavtsev A., RAFATOV İ., Yuan C.  
51st IEEE International Conference on Plasma Science, ICOPS 2024 and 4th Asia-Pacific Conference on Plasma and Terahertz Science, APCOPTS 2024, Beijing, China, 16 - 20 June 2024
- II. **EFFECT OF THE CATHODE SURFACE TEMPERATURE ON THE CATHODE FALL LAYER PARAMETERS**  
EYLENCEOĞLU E., Islamov G., RAFATOV İ.  
TURKISH PHYSICAL SOCIETY 39TH INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 31 August - 04 September 2023, vol.1, pp.78
- III. **EFFECT OF DIFFERENT MODELLING APPROACHES FOR SIMULATION OF ATMOSPHERIC PRESSURE GLOW DISCHARGES IN HELIUM**  
EYLENCEOĞLU E., RAFATOV İ., Islamov G., YEŞİL C.  
TURKISH PHYSICAL SOCIETY 39TH INTERNATIONAL PHYSICS CONGRESS, Muğla, Turkey, 31 August 2023, vol.1, pp.79
- IV. **Computational study of decomposition of carbon dioxide in a coaxial dielectric barrier discharge at atmospheric pressure**  
RAFATOV İ.  
Plazma fizik, Nanchang, China, 28 - 29 October 2022
- V. **Parametric study of coaxial dielectric barrier discharge in atmospheric pressure argon: Experiment vs. numerical model**  
RAFATOV İ.  
The 7th Sino-Russia Workshop on Plasma Physics and Applications, Harbin, China, 30 July 2021
- VI. **Transition to Chaos in Planar Gas Discharge-Semiconductor System in Nitrogen: Effect of Fluid Modelling Approach**  
YEŞİL C., RAFATOV İ.  
Computational Science and Engineering Conference BEYOND 2019, Ankara, Turkey, 2 - 11 September 2019, pp.61
- VII. **Plasma physics research at METU and other research institutions in Turkey**  
RAFATOV İ.  
Symposium on Plasma Physics and Fusion Energy, American University of Beirut, Beirut, Lebanon, 07 November 2017
- VIII. **Incorporation of the electron energy equation into the hybrid Monte Carlo fluid model for glow discharge the applicability and reliability of the model**  
EYLENCEOĞLU E., RAFATOV İ., Kudryavtsev A.  
69th Annual Gaseous Electronics Conference, Bochum, Germany, 10 - 14 October 2016, vol.61
- IX. **Particle in Cell Monte Carlo Collision Analysis of the Problem of Identification of Impurities in Gas within the Plasma Electron Spectroscopy Method**  
KUŞOĞLU SARIKAYA C., RAFATOV İ., Kudryavtsev A.  
69th Annual Gaseous Electronics Conference, Bochum, Germany, 10 - 14 October 2016, vol.61
- X. **NUMERICAL ANALYSIS OF FORMATION OF HEXAGONAL ANDBAND STRUCTURES IN THE GAS DISCHARGE SEMICONDUCTORSYSTEM**  
RAFATOV İ.  
VIII International Conference on Plasma Physics and Plasma Technology (PPPT-8), Minsk, Belarus, 14 - 18 September 2015
- XI. **ARC DISCHARGE SIMULATIONS FOR MAGNETOPLASMA DYNAMIC THRUSTER WITH HOLLOW CATHODE**  
Eliseev S., Saifutdinov A., Kudryavtsev A., ÇAKIR S., RAFATOV İ.  
VIII International Conference on Plasma Physics and Plasma Technology (PPPT-8), Minsk, Belarus, 14 - 18 September 2015
- XII. **Study of Self organization and Current Filamentation in the Glow Gas Discharge System**  
RAFATOV İ., ÇAKIR S.  
International Workshop "Nonlinear Photonics: Theory, Materials, Applications", Sankt-Peterburg, Russia, 29 June - 02 July 2015, pp.21

- XIII. **Density Gradient Instability in Hall Thrusters**  
 ÇAKIR S., RAFATOV İ.  
 International Workshop "Nonlinear Photonics: Theory, Materials, Applications", Sankt-Peterburg, Russia, 29 June - 02 July 2015, pp.20
- XIV. **VALIDATION AND PARALLELIZATION OF THE PARTICLE IN CELL/MONTE CARLO COLLISION NUMERICAL CODE FOR THE RF DISCHARGE SIMULATIONS**  
 SARIKAYA C. K., RAFATOV İ., ÇAKIR S.  
 IEEE International Conference on Plasma Sciences (ICOPS), Belek, Turkey, 24 - 28 May 2015
- XV. **3D numerical model for a temporal and spatial pattern formation in a dc glow discharge semiconductor system**  
 RAFATOV İ.  
 The XXII Europhysics Conference on Atomic and Molecular Physics of Ionized Gases (ESCAMPIG, Greifswald, Germany, 15 - 19 July 2014, pp.453-454
- XVI. **Three dimensional numerical modelling of structure formation in the plasma of a dc driven barrier discharge**  
 RAFATOV İ.  
 International Conference on Physics of Low Temperature Plasma, Kazan, Russia, 20 - 23 May 2014
- XVII. **Investigation of pattern formation in planar gas discharges**  
 UZUN KAYMAK İ. Ü., RAFATOV İ.  
 IMEPS International Middle East Conference on Plasma Science, Antalya, Turkey, 23 - 25 April 2014
- XVIII. **Fluid and hybrid numerical modeling of plasma properties in the discharge channel of a Hall thruster**  
 Yüncüler Ç., RAFATOV İ., Uluşen D.  
 The International Middle East Plasma Science (IMEPS), Antalya, Turkey, 23 - 25 April 2014
- XIX. **Validation of the Particle in Cell Monte Carlo Collision numerical code for the RF discharge simulations**  
 KUŞOĞLU SARIKAYA C., RAFATOV İ., ÇAKIR S.  
 The International Middle East Plasma Science (IMEPS), Antalya, Turkey, 23 - 25 April 2014
- XX. **Numerical study of nonlinear oscillations and pattern formation in glow discharge semiconductor system**  
 RAFATOV İ., UZUN KAYMAK İ. Ü., ÇAKIR S.  
 Zvenigorod International Conference on Plasma Physics and Controlled fusion, Zvenigorod, Russia, 10 - 14 February 2014, pp.178
- XXI. **Two-dimensional hybrid model for a glow discharge: comparison with fluid and kinetic (particle) models, reliability and accuracy**  
 EYLENCEOĞLU E., RAFATOV İ.  
 16th Russian Youth Conference on Physics and Astronomy (PhysicA.SPb), St Petersburg, Russia, 23 - 24 October 2013, vol.572
- XXII. **PIC MCC method for numerical simulation of RF glow discharges Effect of super particle weighting and parallelization**  
 Erden E., RAFATOV İ.  
 4th Workshop on Radiofrequency Discharges, Presqu'île de Giens, France, 29 - 31 May 2013
- XXIII. **On the numerical modelling of a dc driven glow discharge plasma**  
 RAFATOV İ., Bogdanov E., Kudryavtsev A.  
 30th International Conference on Phenomena in Ionized Gases (ICPIG), Belfast, United Kingdom, 28 August - 02 September 2011, pp.1-4
- XXIV. **Hybrid modelling of a dc glow discharge with account of nonlocal ionization by fast electrons**  
 RAFATOV İ., Bogdanov E., Kudryavtsev A.  
 VII International Conference Plasma Physics and Plasma Technology (PPPT-7), Minsk, Belarus, 17 - 21 September 2012, vol.1, pp.14-17
- XXV. **Fluid model of dc glow discharge with nonlocal ionization source term**

RAFATOV İ., BOGDANOV E. A., KUDRYAVTSEV A. A.

12th European Plasma Conference on High-Tech Plasma Processes (HTPP), Bologna, Italy, 24 - 29 June 2012, vol.406

## Supported Projects

Rafatov I., TÜBİTAK International Bilateral Joint Cooperation Program Project, Atmosferik Basıncılı Işıma Deşarjlarında Elektrot Üzerindeki Akım Yapılarının Kapsamlı Deneysel ve Sayısal İncelemeleri, 2022 - 2024

Rafatov İ., Katırcıoğlu Y., TUBITAK Project, Modelleme ve Simülasyon Destekli Optimum Dielektrik Bariyer Deşarj (DBD) Prototip Sistem Geliştirilmesi: CO<sub>2</sub> Ayrıştırma ve Oligomerleşme Reaksiyonlarında DBD Reaktörün Kullanımının Analizi, 2020 - 2022

RAFATOV İ., TÜBİTAK International Bilateral Joint Cooperation Program Project, Yüksek Ve Düşük Basıncı Gaz Deşarjların Yerel Olmayan Plazmalarının 2d Kinetik Sayısal Kodların Geliştirilmesi Ve Yeni Plasma Teknolojilerde Uygulanması, 2011 - 2013

RAFATOV İ., TUBITAK Project, Yüksek basıncılı glow deşarjların kendiliğinden yapılanmasının ve kararlı yanma şartlarının incelenmesi, 2009 - 2011

RAFATOV İ., TUBITAK Project, Gaz Akımında Sürekli Optik Deşarj Özelliklerinin Nümerik İncelemesi, 2007 - 2008

RAFATOV İ., TUBITAK Project, Gaz Akımında Sürekli Optik Deşarj Özelliklerinin Nümerik İncelenmesi, 2007 - 2008

## Activities in Scientific Journals

Anadolu Üniversitesi Bilim ve Teknoloji Dergisi: B-Teorik Bilimler, Committee Member, 2019 - Continues

ANADOLU UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY - A Applied Sciences and Engineering, Committee Member, 2019 - Continues

## Scientific Refereeing

PHYSICA SCRIPTA, SCI Journal, November 2023

PLASMA SCIENCE AND TECHNOLOGY, SCI Journal, November 2023

IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, November 2023

IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, November 2023

IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, October 2023

PHYSICA SCRIPTA, SCI Journal, October 2023

PHYSICS OF PLASMAS, SCI Journal, July 2023

JOURNAL OF PHYSICS D - APPLIED PHYSICS, SCI Journal, April 2023

PHYSICS OF PLASMAS, SCI Journal, December 2022

PHYSICS OF PLASMAS, SCI Journal, November 2022

PHYSICS OF PLASMAS, SCI Journal, October 2022

PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, September 2022

PHYSICS OF PLASMAS, SCI Journal, September 2022

PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, August 2022

PHYSICS OF PLASMAS, SCI Journal, August 2022

PHYSICS OF PLASMAS, SCI Journal, August 2022

PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, August 2022

PHYSICS OF PLASMAS, SCI Journal, June 2022

PLASMA SCIENCE AND TECHNOLOGY, SCI Journal, June 2022

PHYSICS OF PLASMAS, SCI Journal, May 2022

EUROPEAN PHYSICAL JOURNAL PLUS, SCI Journal, May 2022



IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, February 2022  
PLASMA PROCESSES AND POLYMERS, SCI Journal, February 2022  
PHYSICS OF PLASMAS, SCI Journal, January 2022  
IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, January 2022  
IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, January 2022  
PHYSICS OF PLASMAS, SCI Journal, December 2021  
IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, December 2021  
IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, December 2021  
TUBITAK Project, 3501 - National Young Researcher Career Development Program, Dicle University, Turkey, December 2021  
PLASMA SCIENCE AND TECHNOLOGY, SCI Journal, October 2021  
PHYSICS OF PLASMAS, SCI Journal, October 2021  
PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, October 2021  
PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, October 2021  
PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, September 2021  
CHINESE JOURNAL OF PHYSICS, SCI Journal, September 2021  
Project Supported by Higher Education Institutions, BAP Research Project, Middle East Technical University, Turkey, September 2021  
Erzincan Üniversitesi Fen Bilimleri Enstitüsü Dergisi, National Scientific Refreed Journal, August 2021  
PHYSICA SCRIPTA, SCI Journal, August 2021  
PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, August 2021  
PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, August 2021  
CHINESE JOURNAL OF PHYSICS, SCI Journal, July 2021  
Project Supported by Higher Education Institutions, BAP Research Project, Istanbul University, Turkey, July 2021  
APPLIED PHYSICS LETTERS, SCI Journal, June 2021  
IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Journal, June 2021  
APPLIED PHYSICS LETTERS, SCI Journal, May 2021  
PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Journal, May 2021  
JOURNAL OF PHYSICS D - APPLIED PHYSICS, SCI Journal, March 2021  
JOURNAL OF PHYSICS D - APPLIED PHYSICS, SCI Journal, February 2021  
PLASMA SCIENCE AND TECHNOLOGY, SCI Journal, January 2021

## **Mobility Activity**

Sabbatical Leave, Scientific Research, Harbin Institute of Technology, China, 2023 - 2024  
Research Scholarship Program, Guest Researcher, Harbin Institute of Technology, China, 2023 - 2023  
Research Scholarship Program, Guest Researcher, Université Paul Sabatier: Toulouse III, France, 2017 - 2017

## **Metrics**

Publication: 65  
Citation (WoS): 395  
Citation (Scopus): 415  
H-Index (WoS): 10  
H-Index (Scopus): 10