

## Prof. Dr. İSMAIL RAFATOV

### Kişisel Bilgiler

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### Uluslararası Araştırmacı ID'leri

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ScopusID: [56304125800](https://scopus.com/authid/detail.uri?authorid=56304125800)

Yoksis Araştırmacı ID: [163457](https://yoksis.metu.edu.tr/yoksis/163457)

### Eğitim Bilgileri

Doktora, Kırgızistan-Rusya Slav Üniversitesi, Fizik, Kırgızistan 1995 - 1999

Lisans, Yusuf Balasagin Kirgiz Milli Üniversitesi, Uygulamalı Matematik, Kırgızistan 1990 - 1995

### Yabancı Diller

İngilizce, B2 Orta Üstü

Rusça, C1 İleri

### Yaptığı Tezler

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

### Araştırma Alanları

Temel Bilimler, Fizik, Gazlar, Plazmalar ve Elektriksel Boşalmalar Fiziği, Plazma fiziği

### Akademik Unvanlar / Görevler

Prof. Dr., Orta Doğu Teknik Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 2018 - Devam Ediyor

Doç. Dr., Orta Doğu Teknik Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 2010 - 2018

Yrd. Doç. Dr., Orta Doğu Teknik Üniversitesi, Fen Edebiyat Fakültesi, Fizik Bölümü, 2005 - 2009

Yrd. Doç. Dr., Çanakkale Onsekiz Mart Üniversitesi, Fen Ve Edebiyat Fakültesi, Matematik Bölümü, 2001 - 2002

### Verdiği Dersler

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

## Yönetilen Tezler

Rafatov I., Optical system design of hyperspectral space-borne electro-optic imager for micro-satellite platforms, Doktora, Z.NİLÜFER(Öğrenci), 2023  
Rafatov I., Development and benchmark of an electrostatic PIC/MCC numerical code for simulation of gas discharge plasmas, Yüksek Lisans, İ.ARDA(Öğrenci), 2023  
Rafatov I., Comprehensive investigation of plasma behavior in diverse gas discharge phenomena: Fluid modeling, chaotic dynamics, and synchronization, Doktora, C.YEŞİL(Öğrenci), 2023  
RAFATOV İ., Numerical investigation of Dbd in neon: Effect of fluid modelling approaches, Yüksek Lisans, M.HİLMİ(Öğrenci), 2021  
RAFATOV İ., Investigation of nonlinear oscillations in the gas discharge-semiconductor system: Effect of different fluid modelling approaches, Yüksek Lisans, C.YEŞİL(Öğrenci), 2018  
RAFATOV İ., Numerical analysis of plasma properties in the glow discharge: Accuracy and applicability of simple and extended fluid models, Yüksek Lisans, K.KAYMAZLAR(Öğrenci), 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, Doktora, C.KUŞOĞLU(Öğrenci), 2017  
KARASÖZEN B., RAFATOV İ., Numerical modelling of spatio-temporal patterns in a DC-driven gas discharge-semiconductor system, Yüksek Lisans, G.ÖZDEN(Öğrenci), 2015  
RAFATOV İ., ALEMDAROĞLU H. N., One dimensional numerical analysis of plasma properties in the discharge channel of a Hall effect thruster, Yüksek Lisans, Ç.YÜNCÜLER(Öğrenci), 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, Yüksek Lisans, E.ERDEN(Öğrenci), 2013  
RAFATOV İ., Numerical investigation of self-organization and stable burning conditions of moderate pressure glow discharges in argon gas, Yüksek Lisans, E.EYLENCEOĞLU(Öğrenci), 2011  
RAFATOV İ., Numerical investigation of a DC glow discharge in an argon gas: Two-component plasma model, Yüksek Lisans, E.KEMANECİ(Öğrenci), 2009

## Jüri Üyelikleri

Doçentlik Sınavı, Doçentlik Sınavı, Orta Doğu Teknik Üniversitesi, Ekim, 2020

## SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- 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 I.  
PHYSICA SCRIPTA, cilt.99, sa.12, 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, cilt.33, sa.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, cilt.33, sa.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, cilt.30, sa.9, ss.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, cilt.32, sa.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, cilt.28, sa.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, cilt.129, sa.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, cilt.29, sa.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, cilt.26, sa.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, cilt.25, sa.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, cilt.24, sa.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, cilt.24, sa.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, cilt.95, sa.2, ss.190-200, 2017 (SCI-Expanded)
- XIV. **Multiple stationary filamentary states in a planar dc-driven gas discharge-semiconductor system**  
RAFATOV İ.  
PHYSICS OF PLASMAS, cilt.23, sa.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, cilt.25, sa.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, cilt.23, sa.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, cilt.22, sa.1, 2015 (SCI-Expanded)
- XVIII. **Extension of spatiotemporal chaos in glow discharge-semiconductor systems**  
AKHMET M., RAFATOV I., FEN M. O.  
CHAOS, cilt.24, sa.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, cilt.54, sa.7, ss.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, cilt.19, sa.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, cilt.19, sa.3, 2012 (SCI-Expanded)
- XXII. **Effect of focusing geometry on the continuous optical discharge properties**  
Rafatov I.  
PHYSICS LETTERS A, cilt.373, sa.37, ss.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, cilt.42, sa.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, cilt.42, sa.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, cilt.76, sa.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, cilt.367, ss.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, cilt.40, sa.9, ss.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, cilt.47, sa.3, ss.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, cilt.38, sa.13, ss.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, cilt.71, sa.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, cilt.338, ss.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, cilt.45, sa.2, ss.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, cilt.70, sa.5, 2004 (SCI-Expanded)
- XXXIV. **Self-consistent model of non-equilibrium spherical microwave discharge**  
Rafatov I., LELEVKIN V.  
JOURNAL OF PHYSICS D-APPLIED PHYSICS, cilt.37, sa.20, ss.2876-2885, 2004 (SCI-Expanded)

## **Diğer Dergilerde Yayınlanan Makaleler**

- I. **Development and benchmark of a 1d3v electrostatic PIC/MCC numerical code for gas discharge simulations**  
Arda I., Rafatov I.  
TURKISH JOURNAL OF PHYSICS, cilt.47, ss.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, cilt.42, sa.6, ss.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, cilt.24, ss.36-47, 2016 (Hakemli Dergi)
- IV. **Difference schemes for the class of singularly perturbed boundary value problems**  
Sklyar S. N., RAFATOV İ.  
Applied Numerical Analysis & Computational Mathematics, cilt.1, sa.1, ss.223-230, 2004 (Hakemli Dergi)

## **Kitap & Kitap Bölümleri**

- I. **Sayısal Yöntemler**  
Rafatov I., Yedierler B., Erözbeğ Güngör Ü., Çakir S. (Editör)  
Maddenin 4. Hali: Plazma: Temelleri Ve Uygulamaları, Serhat Çakır, Editör, Arkadaş Yayınevi, Ankara, ss.143-224, 2023
- II. **Introduction to Simulation Methods for Gas Discharge Plasmas**  
Rafatov İ., Kudryavtsev A.  
Institute of Physics Publishing (IOP) , Bristol, 2020

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

- 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, Çin, 16 - 20 Haziran 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, Türkiye, 31 Ağustos - 04 Eylül 2023, cilt.1, ss.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, Türkiye, 31 Ağustos 2023, cilt.1, ss.79
- IV. **Computational study of decomposition of carbon dioxide in a coaxial dielectric barrier discharge at atmospheric pressure**  
RAFATOV İ.  
Plazma fizik, Nanchang, Çin, 28 - 29 Ekim 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, Çin, 30 Temmuz 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, Türkiye, 2 - 11 Eylül 2019, ss.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, Beyrut, Lübnan, 07 Kasım 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, Almanya, 10 - 14 Ekim 2016, cilt.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, Almanya, 10 - 14 Ekim 2016, cilt.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 Eylül 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 Eylül 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, Rusya, 29 Haziran - 02 Temmuz 2015, ss.21
- XIII. **Density Gradient Instability in Hall Thrusters**

ÇAKIR S., RAFATOV İ.

International Workshop "Nonlinear Photonics: Theory, Materials, Applications", Sankt-Peterburg, Rusya, 29 Haziran - 02 Temmuz 2015, ss.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, Türkiye, 24 - 28 Mayıs 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, Almanya, 15 - 19 Temmuz 2014, ss.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, Rusya, 20 - 23 Mayıs 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, Türkiye, 23 - 25 Nisan 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, Türkiye, 23 - 25 Nisan 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, Türkiye, 23 - 25 Nisan 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, Rusya, 10 - 14 Şubat 2014, ss.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, Rusya, 23 - 24 Ekim 2013, cilt.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, Fransa, 29 - 31 Mayıs 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, Birleşik Krallık, 28 Ağustos - 02 Eylül 2011, ss.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 Eylül 2012, cilt.1, ss.14-17
- XXV. **Fluid model of dc glow discharge with nonlocal ionization source term**  
RAFATOV İ., BOGDANOV E. A., KUDRYAVTSEV A. A.

## Desteklenen Projeler

Rafatov I., TÜBİTAK Uluslararası İkili İşbirliği Projesi, Atmosferik Basıncılı Işıma Deşarjlarında Elektrot Üzerindeki Akım Yapılarının Kapsamlı Deneysel ve Sayısal İncelemeleri, 2022 - 2024

Rafatov İ., Katırcıoğlu Y., TÜBİTAK Projesi, 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 Uluslararası İkili İşbirliği Projesi, Yüksek Ve Düşük Basınç Gaz Deşarjların Yerel Olmayan Plazmalarının 2d Kinetik Sayısal Kodların Geliştirilmesi Ve Yeni Plasma Teknolojilerde Uygulanması, 2011 - 2013

RAFATOV İ., TÜBİTAK Projesi, Yüksek basınçlı glow deşarjların kendiliğinden yapılanmasının ve kararlı yanma şartlarının incelenmesi, 2009 - 2011

RAFATOV İ., TÜBİTAK Projesi, Gaz Akımında Sürekli Optik Deşarj Özelliklerinin Nümerik İncelemesi, 2007 - 2008

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## Bilimsel Dergilerdeki Faaliyetler

Anadolu Üniversitesi Bilim ve Teknoloji Dergisi: B-Teorik Bilimler, Editörler Kurulu Üyesi, 2019 - Devam Ediyor

ANADOLU UNIVERSITY JOURNAL OF SCIENCE AND TECHNOLOGY - A Applied Sciences and Engineering, Editörler Kurulu Üyesi, 2019 - Devam Ediyor

## Bilimsel Hakemlikler

PHYSICA SCRIPTA, SCI Kapsamındaki Dergi, Kasım 2023

PLASMA SCIENCE AND TECHNOLOGY, SCI Kapsamındaki Dergi, Kasım 2023

IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Kapsamındaki Dergi, Kasım 2023

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JOURNAL OF PHYSICS D - APPLIED PHYSICS, SCI Kapsamındaki Dergi, Nisan 2023

PHYSICS OF PLASMAS, SCI Kapsamındaki Dergi, Aralık 2022

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TÜBİTAK Projesi, 3501 - Ulusal Genç Araştırmacı Kariyer Geliştirme Programı, Dicle Üniversitesi, Türkiye, Aralık 2021  
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Yükseköğretim Kurumları Destekli Proje, BAP Araştırma Projesi, Orta Doğu Teknik Üniversitesi, Türkiye, Eylül 2021  
Erzincan Üniversitesi Fen Bilimleri Enstitüsü Dergisi, Hakemli Bilimsel Dergi, Ağustos 2021  
PHYSICA SCRIPTA, SCI Kapsamındaki Dergi, Ağustos 2021  
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PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Kapsamındaki Dergi, Ağustos 2021  
CHINESE JOURNAL OF PHYSICS, SCI Kapsamındaki Dergi, Temmuz 2021  
Yükseköğretim Kurumları Destekli Proje, BAP Araştırma Projesi, İstanbul Üniversitesi, Türkiye, Temmuz 2021  
APPLIED PHYSICS LETTERS, SCI Kapsamındaki Dergi, Haziran 2021  
IEEE TRANSACTIONS ON PLASMA SCIENCE, SCI Kapsamındaki Dergi, Haziran 2021  
APPLIED PHYSICS LETTERS, SCI Kapsamındaki Dergi, Mayıs 2021  
PLASMA SOURCES SCIENCE AND TECHNOLOGY, SCI Kapsamındaki Dergi, Mayıs 2021  
JOURNAL OF PHYSICS D - APPLIED PHYSICS, SCI Kapsamındaki Dergi, Mart 2021  
JOURNAL OF PHYSICS D - APPLIED PHYSICS, SCI Kapsamındaki Dergi, Şubat 2021  
PLASMA SCIENCE AND TECHNOLOGY, SCI Kapsamındaki Dergi, Ocak 2021

## **Akademik Dolaşım Faaliyetleri**

Sabbatical Araştırma İzni, Proje Kapsamında Bilimsel Araştırma, Harbin Institute of Technology, Çin, 2023 - 2024  
Araştırma Burs Programı, Misafir Araştırmacı, Harbin Institute of Technology, Çin, 2023 - 2023  
Araştırma Burs Programı, Misafir Araştırmacı, Université Paul Sabatier: Toulouse III, Fransa, 2017 - 2017

## **Metrikler**

Yayın: 65  
Atf (WoS): 425  
Atf (Scopus): 447  
H-İndeks (WoS): 11  
H-İndeks (Scopus): 11