ELNAZ YAZDANI

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Webpages : http://en-sci.modares.ac.ir/?&fkeyid=&siteid=84&pageid=13818

Google Scholar: *https://scholar.google.com/citations?user=qFZTKZIAAAAJ&hl=en*

Education:

PH.D. | 2014 | AMIRKABIR UNIVERSITY OF TECHNOLOGY (TEHRAN POLYTECHNIC), TEHRAN,IRAN
Laser Plasma Interaction, PHYSICS AND ENERGY ENGINEERING
M.SC. | 2006 | URMIA UNIVERSITY, URMIA, IRAN
Laser Plasma Interaction, PHYSICS DEPARTMENT
B.SC. | 2003| TABRIZ UNIVERSITY, TABRIZ, IRAN
PHYSICS, DEPARTMENT OF PHYSICS

Professional Experiences:

Assistant professor, March 2017 -present, Tarbiat Modares University, Tehran, Iran
Research assistant, Sept. 2009 – Sept. 2014, Amirkabir University of Technology
Guest researcher, March 2012-March 2013, Department of Physics, Faculty of Engineering, Lund University (Laser Plasma Accelerator)
Graduate Research assistant, June 2005-2011: Sharif University of technology, Physics Department, Researcher works with Professor Rasoul Sadighi-Bonabi- Tehran- Iran.
Research assistant, December 2007-2014: Research works with Professor Heinrich Hora Form School of Physics of the University of New South Wales.

Research Interests:

- Optoelectronics: Semiconductor lasers, solar cell, LEDs
- Integrated Photonics components: tunable semiconductor lasers, electro-optic modulators, ring resonators,
- Light propagation and coherent light generation in disordered and nonlinear media
- Light matter interactions (Foam structured targets, near critical plasma density, micro to nano porous targets)

Teaching Experiences:

University of Tarbiat Modares, Tehran, Iran since 2017

- Advanced Laser
- Laser Spectroscopy (Master course)
- Light matter interaction (PhD courses),
- Photonics (master)
- Optoelectronics **(**PhD course)

Selected international Conferences and workshops:

- P.Forozi-Sowmeeh , M. Zohor-Fazeli , **E.Yazdani**, "Impact of Ion Migration on the Time-Transient Performance of Perovskite LEDs", International Conference on Hybrid and Organic Photovoltaics (HOPV22), València, Spain, 2022 May 19th - 25th (Virtual)

- **E.Yazdani**, Quantum-confined Lead Halide Perovskite Nanostructures for Optoelectronics Applications, joint workshop, Berlin-Tehran on Hybrid system for optics, electronics and photonics, Berlin, Germany, October 8–11, 2018.

- **E.Yazdani**, participate in the Training School on Laser Applications for Biology and Biomolecular Systems: an authentic hands-on experience, Coimbra, Portugal, 3-7 July 2017.

- **E. Yazdani et al.** , High current ion beam generation by nonlinear ponderomotive force of high intensity uv laser, 5th international conference on the frontiers of plasma physics and technology 18-22 April 2011, Singapore, Republic of Singapore.
- **E**.**Yazdani** et al, Electron trapping and field propagation in laser-plasma interaction with density transition.*Plasma Science, 2008. ICOPS 2008. IEEE 35th International Conference*.

- **E.Yazdani et al**, Nonlinear force accelerated plasma blocks with inhomogeneous Rayleigh density profile *XXX ECLIM 30th European Conference on Laser Interaction with Matter Darmstadt, Germany,August 31 - September 5, 2008 and GSI Report (2009)*

- **E.Yazdani**, Laser Generation of Directed Plasma Blocks Accelerated By Nonlinear Forces 4th International conference on the frontiers of plasma physics and technology (6-10 April,2009, Kathmandu,Nepal)

Selected Journal Papers

- Perovskite interfaces to contacts ionic flux effect on hysteresis behavior in Perovskite solar cells; M Minbashi, **E Yazdani** Physical Chemistry Chemical Physics, (2023).
- Studying the Role of Ion Migration on Perovskite Light-Emitting Diodes by Steady-State approach**;** P. Forozi-Sowmeeh , M. Zohorfazeli , M. Maleki, M. Minbashi **,E. Yazdani;** Volume 54, Issue 2 (Special Issue),December 2022**,** Pages 377-386.
- Comprehensive study of anomalous hysteresis behavior in perovskite-based solar cells; Mehran Minbashi, Elnaz Yazdani;12, 14916 (2022)
- Confining halide perovskite crystals CH3NH3PbBr3 in porous aluminum oxide thin film; A.Nahani, S. Miri, **E. Yazdani**, Iranian Journal of Physics Research; 22, 1, (2022)
- Effect of Cation and anion migration toward contacts on Perovskite solar cell performance; M. Minbashi, **E. Yazdani**, Progress in Physics of Applied Material,2,2 (2022)
- Enhancement and tuning of optical properties of CdTe/CdS core/shell quantum dots by tuning shell thickness; E Irani, **E Yazdani**, A Bayat; Optik 249, 168198, (2022)
- Mode-controlled random laser assisted by stimulated Raman scattering; MS. Hosseini, **E. Yazdani,** E Irani, B Sajad, F Mehradnia, S Bazire, A Bayat; Optics Communications 500, 127338 (2021)
- Narrow-band random Raman lasing from Rhodamine 6G assisted by cascaded stimulated Raman scattering effect ; MS. Hosseini, **E .Yazdani**, B. Sajad; Scientific Reports ,11, 21747 (2021)
- Third-Order Nonlinear Optical Behavior of an Amide-Tricarboxylate Zinc(II) Metal–Organic Framework with Two-Fold 3D+3D Interpenetration; R. Abazari, **E. Yazdani**, M. Nadafan, A. M. Kirillov, J. Gao, A. M. Z. Slawin; Inorg. Chem 60 (3), 9700–9708, (2021)
- Random Raman laser of Rhodamine 6G dye containing ZnO nanospheres; MS. Hosseini, **E. Yazdani,** B. Sajad ; Journal of Luminescence, 232,117863, (2021)
- Efficiency enhancement of CZTSSe solar cells via screening the absorber layer by examining of different possible defects, M Minbashi, A Ghobadi, E Yazdani, AA Kordbacheh, A Hajjiah, Scientific Reports ,21813, (2020)
- Parametric study of ultra-intense laser interaction with uniform and nano-porous near-critical plasmas, S.Rezaei, **E.Yazdani**, M.Jafari , AIP Advances 10, 055210, (2020)
- A comprehensive review on ultrasonic spray pyrolysis technique: Mechanism, main parameters and applications in condensed matter, SR Ardekani, ASR Aghdam, M Nazari, A Bayat, **E Yazdani**, Journal of Analytical and Applied Pyrolysis 141, 104631 (2019)

- Electron residual energy due to stochastic heating in field-ionized plasma, E.Khalilzadeh, J Yazdanpanah, J Jahanpanah, A Chakhmachi, **E Yazdani** Physics of Plasmas ,22 (11), 113115 (2015).
- The effect of quantum correction on plasma electron heating in ultraviolet laser interaction, S Zare, **E Yazdani,** R Sadighi-Bonabi, A Anvari, H Hora, Journal of Applied Physics (2015).

- Enhancement of proton acceleration by frequency-chirped laser pulse in radiation pressure mechanism, H Vosoughian, Z Riazi, H Afarideh, **E Yazdani**, Physics of Plasmas (2015).

- Relativistic Gaussian laser beam self-focusing in collisional quantum plasmas,S.Zare, S Rezaee, **E Yazdani,** A Anvari, R Sadighi-Bonabi, Laser and Particle Beams (2015).

- Relativistic self-focusing of intense laser beam in thermal collisionless quantum plasma with ramped density profile, S Zare, **E Yazdani**, S Rezaee, A Anvari, R.Sadighi-Bonabi, Physical Review Special Topics-Accelerators and Beams (2015).
- Enhanced laser ion acceleration with a multi-layer foam target assembly, **E.Yazdani**, R. Sadighi-bonabi, H. Afarideh, J. Yazdanpanah, AND H. Hora,Laser and Particle Beams, 32 (4), 509-515 (2014).
- Electron heating enhancement by frequency-chirped laser pulses, **E Yazdani**, R. Sadighi-Bonabi, H Afarideh, Z Riazi, H Hora, Journal of Applied Physics 116 (10),103302, (2014).
- Effect of quantum correction on the acceleration and delayed heating of plasma blocks. H Hora, R Sadighi-Bonabi, **E Yazdani**, H Afarideh, F Nafari, M.ghorannevis, Physical Review E 85 (3), 036404 (2012).
- Dielectric magnifying of plasma blocks at nonlinear force acceleration with delayed electron heating. R Sadighi-Bonabi, **E Yazdani**, Y Cang, H Hora, Physics of Plasmas; 17 (11), 113108 (2010).
- Generation of plasma blocks accelerated by nonlinear forces from ultraviolet KrF laser pulses for fast ignition. Laser and Particle Beams , R Sadighi-Bonabi, H Hora, Z Riazi, **E Yazdani,** SK Sadighi, 28: 101-107, (2010) .
- Comment on "Plasma density ramp for relativistic self-focusing of an intense , R Sadighi-Bonabi, **E Yazdani**, M Habibi, E Lotfi, JOSA B 27 (9), 1731-1734 (2010).
- Improving the relativistic self-focusing of intense laser beam in plasma using density transition. R Sadighi-Bonabi, M Habibi, **E Yazdani**, Physics of Plasmas 16 (8), 083105, (2009).
- Layers from initial Rayleigh density profiles by directed nonlinear force driven plasma blocks for alternative fast ignition. **E Yazdani**, Y Cang, R Sadighi-Bonabi, H Hora, F Osman, Laser and Particle Beams 27 (01), 149-156 (2009).
- Using the steepened plasma profile and wave breaking threshold in laser-plasma interaction. P Zobdeh, R Sadighi-Bonabi, H Afarideh, **E Yazdani**, R.Rezaei,Contributions to Plasma Physics 48 (8), 555-56 9(2008).

Languages:

- Persian (Native)
- Azari(Native)
- Turkish (Native)
- English (fluent)

Computer skills:

- Programming Languages: Fortran, Python.
- Mathematical Softwares: Matlab.
- Graphical Software:Origin.
- Other Softwares: Microsoft office, Latex, onenote
- Simulation Codes: Comsol, Multi dimension Particle-In-Cell codes (LPIC++, EMIS, Mandor,Piccante,…), Fluid codes (two fluid code, Multi fs code.

Supervision of junior researchers (2017-2023)

PhD THESES:

- Simulation and performance analysis of perovskite solar cells by considering the effect of ion migration and corrosion (Feb.2019- Feb. 2023)
- Ion Migration Effect on the Operation and Efficiency of Perovskite-based Light-emitting Diodes (in progress, Oct.2019)
- Enhancing performance and stability of perovskite solar cells using perovskite-polymer composite cross linker approach (in progress, Jun 2022)
- Hybrid integrated tunable semiconductor laser (in progress, Sep.2022)

MASTER THESES:

- Studying of hysteresis behavior in Perovskite solar cell under indoor light radiation (in progress)
- Performance improvement of perovskite based solar cell by structural engineering of absorber layer
- The Impact of Ion Migration on the Operation of Perovskite Light-emitting Diodes

- Ion Migration Effect on the Operation and Efficiency of Perovskite-based Light- emitting Diodes
- Proton acceleration in ultra-short ultra-intense laser interaction with near critical plasma density
- Spectral properties of confined halide perovskite crystals on porous Al2O3 substrates
- Optical characteristic of amplified light in halide perovskites thin films
- spectral properties of amplified light in an organic dye solution based on Zno nanoparticle