

CURRICULUM VITA



Surname: Noormohammadi

Name: Mohammad

Academic position: Assistant Professor Department of Physics, University of Kashan, Iran

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Education:

Ph.D programs(2008-2013)

Ph.D. in Physics (Condensed matter physics), Shiraz University, Shiraz, Iran.

Thesis: Fabrication of 2D and 3D alumina nanostructure and investigation about their physical properties and applications

Supervisors: Prof M. Moradii

M.Sc. programs (2005-2008)

Nuclear physics, University of Kashan, Kashan, Iran

Thesis: Fabrication of two dimensional photonic crystals based on hard anodization method and its optical investigation Supervisors: Prof A.Ramazani,

M.Sc. course work

B.Sc. programs (2000-2005)

B.Sc. in Physics (Solid State) Kashan University, Kashan, Iran

Research Interests:

Photonic Crystals, Piezoelectric Nanogenerators, photovoltaic Nano-Structures

Course taught:

General physics, Solid State Physics, Thermodynamics, Statistical mechanics.

Scientific publications:

1. M. Almasi Kashi, A. Ramazani, M. Noormohammadi, M. Zarei and P. Marashi "Optimum self-ordered nanopore arrays with 130–270nm interpore distances formed by hard anodization in sulfuric/oxalic acid mixtures" J. Phys. D: Appl. Phys. 40 (2007) 7032–7040.

2. M. Almasi Kashi, A. Ramazani, M. Rahmadoost and M. Noormohammadi "The effect of pH and composition of sulfuric–oxalic acid mixture on the self-ordering configuration of high porosity alumina nanohole arrays" J. Phys. D: Appl. Phys. 40 (2007) 1–6.

3. M. Almasi Kashi, A. Ramazani, Y. Mayamai and M. Noormohammadi "Fabrication of Self-Ordered Nanoporous Alumina with 69–115nm Interpore Distances in Sulfuric/Oxalic Acid Mixtures by Hard Anodization" Japanese Journal of Applied Physics 49 (2010) 015202-015207.

4. M. Moradi, M. Noormohammadi and F. Behzadi "Three-dimensional structural engineering of nanoporous alumina by controlled sprinkling of an electrolyte on a porous anodic alumina (PAA) template" *J. Phys. D: Appl. Phys.* 44 (2011) 045301.
5. M. Noormohammadi, M. Moradi " Structural engineering of nanoporous alumina by direct cooling the barrier layer during the aluminum hard anodization" *Materials Chemistry and Physics* 135 (2012) 1089.
6. M. Noormohammadi , M. Moradi, M. Almasi Kashi , A. Ramazani c, Y. Mayamai "Structural engineering of nanoporous alumina by controlling the anodization voltage during the spontaneous current oscillation in hard anodization" *Surface & Coatings Technology* 223 (2013) 104–109.
7. Z. Chamanzadeh, M. Noormohammadi, M. Zahedifar, Enhanced photovoltaic performance of dye sensitized solar cell using TiO₂ and ZnO nanoparticles on top of free standing TiO₂ nanotube arrays, *Materials Science in Semiconductor Processing*, 61 (2017) 107-113.
8. V. Asgari, M. Noormohammadi, A. Ramazani, M. Almasi Kashi "A facile method to form highly-ordered TiO₂ nanotubes at a stable growth rate of 1000 nm min⁻¹ under 60 V using an organic electrolyte for improved photovoltaic properties" *Journal of Physics D: Applied Physics*, 50 (2017) 375501.
9. V. Asgari, Mohammad Noormohammadi, Abdol ali Ramazani, Mohammad Almasi Kashi, A new approach to electropolishing of pure Ti foil in acidic solution at room temperature for the formation of ordered and long TiO₂ nanotube arrays, *Corrosion Science*, 136 (2018) 38-46.
10. M. Arefpour, M. Almasi Kashi, F. Khansari Barzoki, M. Noormohammadi, A. Ramazani "Electrodeposited metal nanowires as transparent conductive electrodes: Their release conditions, electrical conductivity, optical transparency and chemical stability" *Materials & Design*, 157 (2018) 326-336.
11. S. Abbasi mofrad ,M. Almasi Kashi ,M. Noormohammadi, A. Ramazani "Tuning the optical properties of nanoporous anodic alumina photonic crystals by control of allowed voltage range via mixed acid concentration" *Elsevier Journal of Physics and Chemistry of Solids*, 118 (2018) 221-231.
12. Z. Chamanzadeh, M. Noormohammadi, M. Zahedifar "Self-organized and uniform TiO₂ nanotube arrays with optimized NH₄F concentration in electrolyte by high voltage electrochemical anodization" *Materials Research Express*, 5 (2018) 055025.
13. M Soltani, A Shafyei, S Akhavan, M Noormohammadi, Investigation the Mild and Hard Anodizing of 1100 Aluminium Alloy in Different Acidic Electrolyte, and Characterization of Obtained Oxide Film, *Journal of Advanced Materials and Technologies* 8 (1), 1-12 (2019)
14. M Soltani, R Aliramezani, S Akhavan, Z Erfani Gahrouei, M Noormohammadi, Fabrication of anodic aluminium oxide template and the generation of magnetic Co nanowires within it *Journal of Advanced Materials and Processing* 7 (4), 57-66 (2019)
15. M Noormohammadi, ZS Arani, A Ramazani, MA Kashi, S Abbasimofrad, Super-fast fabrication of self-ordered nanoporous anodic alumina membranes by ultra-hard anodization , *Electrochimica Acta* 354, 136766 (2020)

16- V Asgari, M Noormohammadi, A Ramazani, MA Kashi, The role of barrier layer temperature in the formation of long and small-diameter TiO₂ nanotube arrays , Journal of Porous Materials 27 (6), 1613–1621 (2020)

17- H Soleymani, M Noormohammadi, MA Kashi, MH Amiri, JJ Michels, ...Self-Poled Sausage-Like PVDF Nanowires Produced by Confined Phase Inversion as Novel Piezoelectric Nanogenerators, Advanced Materials Interfaces 1 (Δ), 2001734 (2021)

18- M Ahmadzadeh, MA Kashi, M Noormohammadi, A Ramazani, Small-diameter magnetic and metallic nanowire arrays grown in anodic porous alumina templates anodized in selenic acid Applied Physics A 127 (6), 1–12 (2021)

19- M Ahmadzadeh, MA Kashi, M Noormohammadi, A Ramazani, Self-ordered porous anodic alumina templates by a combinatory anodization technique in oxalic and selenic Acids, , Journal of Electronic Materials 50 (A), 4787–4796 (2021)

20- RA Varkani, HA Rafiee-Pour, M Noormohammadi, One step immobilization of glucose oxidase on TiO₂ nanotubes towards glucose biosensing, Microchemical Journal 170, 106712 (2021)

21- M. Mohammadalizadeh, M. Almasi Kashi, M Noormohammadi , Angular-dependent magnetic properties of chemically synthesized single crystalline Co nanowires, Materials Chemistry and Physics 281 125807 (2022)

22- M. Mohammadalizadeh, M. Almasi Kashi, M Noormohammadi, An investigation into nanomagnetic properties of powder and ordered cobalt nanowires synthesized by a solvothermal technique, Applied Physics A 128, 714 (2022)

23- G. Hashemi Kachabi, M. Noormohammadi, M. Almasi Kashi a,b, M. Mohammadalizadeh, Structure, morphology and crystallization behavior of PVDF/Co nanowire nanocomposites under horizontal and vertical magnetic fields, Colloids and Surfaces A: Physicochemical and Engineering Aspects 705 135734 (2025)

24- M. R, Pirmordian a, M. Noormohammadi, M. Almasi Kashi, M. Mahdi Abolhasania, A. Di Carlo, M. Zendejdel, N. Yaghoobi Nia, Micro-nano structural design of electrode materials for high performance self-polarized poly (vinylidene fluoride) (PVDF) piezoelectric nanogenerators, Journal of Physics and Chemistry of Solids 204 112738 (2025)

25- A, Alireza, M. Almasi Kashi, and M. Noormohammadi. "Fabrication of a milliwatt uniform current pulse multifunctional layered triboelectric nanogenerator with high durability based on hierarchical TiO₂ micro-nanostructures." Colloids and Surfaces A: Physicochemical and Engineering Aspects: 137958. (2025)

26- S., Hosna, M. M. Abolhasani, M. Noormohammadi, S. Azimi, M. Muller, J. J. Michels. "Multifunctional Self-Powered PVDF/TiO₂ Nanowire Platform for Energy Harvesting and Precision Vortex Flow Sensing." ACS Applied Materials & Interfaces 18, no. 1: 2550-2557 (2025)

27- F. Marzieh, M. Noormohammadi, M. Almasi Kashi. "Effect of oxalic acid addition on suppressing oxide deformation and cracking during hard anodization of aluminum in sulfuric acid." *Surfaces and Interfaces* (2026): 109451.

Conferences (Published in Proceedings):

1. M. Ahmadzadeh , M . Almasi Kashi, M. noormohammadi, Fabrication of highly ordered CoFe nanowires arrays via selenic acid anodizing ,7th International Congress on Nanoscience and Nanotechnology ,2018 09 26.
2. Z. Chamanzadehb, M.Zahedifarab, M.Noormohammadia ,Investigation the effect of high anodization voltage on TiO₂ nanotubes properties and application in dye sensitized solar cell ,7th International Congress on Nanoscience and Nanotechnology (ICNN2018) ,2018 09 26.
3. Z. Chamanzadehb, M.Zahedifarab, M.Noormohammadia ,Investigation the effect of ZnO nanoparticles decorated TiO₂ nanotube arrays on the performance of dye sensitized solar cells ,7th International Conference on Nanostructures (ICNS7) ,2018 02 27.
4. M. Mohammadalizadeh, M. Almasi Kashi, M Noormohammadi, Study on coercivity angle changes of aligned Cobalt nanowires in magnetic field, The 8th International Biennial Conference on Ultrafine Grained and Nanostructured Materials (UFGNSM2021).
- 5- G. Hashemi kachabi, M. Noormohammadi, Design and performance evaluation of triboelectric nanogenerator based on PTFE and PVDF nanocomposite, The first international conference and the fourth national conference of laboratory equipment and technologies, Alzahra University^{۲۰۲۳}