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Department of Mechanical Engineering
Shahrood University of Technology,
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EDUCATION

Ph.D. in Mechanical Engineering

May 1998

Amirkabir University of Technology,
Tehran, Iran

Field of research: Vibration and control

M.Sc. in Mechanical Engineering, (Applied Mechanics)

Feb. 1988

Amirkabir University of Technology,
Tehran, Iran

B.Sc. in Mechanical Engineering

Jul. 1985

Sharif University of Technology,
Tehran, Iran

RESEARCH INTERESTS

Linear and Nonlinear Vibrations,
Nonlinear Dynamics of Mechanical Systems,
Vibrations Control,
Vehicle Dynamics.
Energy Harvesting

ACADEMIC EXPERIENCE

2003-2021, Associate Professor, Department of Mechanical Engineering, Shahrood University of Technology, Shahrood, Iran.

2000-2003, Assistant Professor, Department of Mechanical Engineering, Razi University, Kermanshah, Iran.

1988-2013, Assistant Professor, Department of Mechanical Engineering, Azad University, Karaj, Iran.

INDUSTRIAL EXPERIENCE

1985-2003, Specialist in mechanical engineering and design, consulting and management in various industries including steel industry, power plant, automobile, railway industry and ...

PUBLICATIONS

Journal Papers

1. **Mohammad Gharanjik, Ardeshir Karami Mohammadi, “Effect of Temperature on the Non-linear Dynamic Behavior of Two-lobe Non-Circular Gas-Lubricated Micro-Bearings”**, *Journal of Engineering Tribology*, (2021), <https://doi.org/10.1177/1350650121995689>.
2. **Azizmohammad Gharanjik, Ardeshir Karami Mohammadi, “Effects of Gas Temperature Rise on Steady State Behavior of Non-Circular Two Lobe Micro Gas Bearings”**, *Amirkabir Journal of Mechanical Engineering*, (2021), [10.22060/AJME.2021.18654.5910](https://doi.org/10.22060/AJME.2021.18654.5910).
3. **Iman Ghaffari, Ardeshir Karami Mohammadi, “A perturbation analysis in nonlinear free vibration of a microbeam reinforced by shape memory alloy layer based on the modified couple stress theory”**, *Journal of Vibration and Control*, (2020), <https://doi.org/10.1177/1077546320977006>.
4. **Ali Ariana, Ardeshir Karami Mohammadi, “Nonlinear dynamics and bifurcation behavior of a sandwiched micro-beam resonator consist of hyper-elastic dielectric film”**, *Sensors and Actuators*, (2020), DOI: [10.1016/j.sna.2020.112113](https://doi.org/10.1016/j.sna.2020.112113).
5. **Majid Saeidiha, Ardeshir Karami Mohammadi, “Vibration analysis of pipe conveying fluid, made of functionally graded material in thickness direction”**, *Journal of Solid and Fluid Mechanics*, (2020), In Persian, [10.22044/JCFM.2020.8281.2884](https://doi.org/10.22044/JCFM.2020.8281.2884).
6. **Mohsen Tajik, Ardeshir Karami Mohammadi, “Nonlinear vibration, stability, and bifurcation analysis of unbalanced spinning pre-twisted beam”**, *Mathematics and Mechanics of Solids*, (2019), <https://doi.org/10.1177/1081286519850604>.
7. **Ardeshir Karami Mohammadi, Saeed Danaee Barforooshi, “Free Vibration Of A Hyper-Elastic Microbeam Using A New “Augmented Biderman Model”**, *Journal of Theoretical and Applied Mechanics*, (2019), DOI: <https://doi.org/10.15632/jtam-pl/110220>.

8. Mohsen Tajik, Ardeshir Karami Mohammadi, "Effect of Spinning Speed Fluctuation along with the Twist Angle on the Nonlinear Vibration and stability of an Asymmetrical Twisted Slender Beam", *Amirkabir Journal of Mechanical Engineering*, (2019), [10.22060/AJME.2019.16362.5816](https://doi.org/10.22060/AJME.2019.16362.5816).
9. Bostani M., A. Karami Mohammadi, "Thermoelastic damping in microbeam resonators based on modified strain gradient elasticity and generalized thermoelasticity theories", *Acta Mechanica*, **229**, pages173–192(2018).
10. A. Karami Mohammadi, Danaee Barforooshi S., "Nonlinear Forced Vibration Analysis of Dielectric-Elastomer Based Micro-Beam with Considering Yeoh Hyper-Elastic Model", *Latin American Journal of Solids and Structures*, 2016, DOI:[10.1590/1679-78252432](https://doi.org/10.1590/1679-78252432).
11. Ale Ali N., A. Karami Mohammadi, "Effect of thermoelastic damping in nonlinear beam model of MEMS resonators by differential quadrature method", *Journal of Applied and Computational Mechanics*, 2015, [10.22055/JACM.2015.10935](https://doi.org/10.22055/JACM.2015.10935).
12. H. Lakzian*, A. Karami Mohammadi and A. Jalali, "On the Performance of Linear and Nonlinear Dynamic Absorbers for Beams Subjected to Moving Loads", *Journal of Computational Methods in Engineering*, 2017, In Persian, JR_JCME-36-1_007.
13. Danaee Barforooshi, S., A. Karami Mohammadi, "Impressive frequency behavior of Rayleigh hyper-elastic micro-beam in comparison with Euler-Bernoulli theory", *U.P.B. Sci. Bull., Series D*, 2017.
14. Danaee Barforooshi S., A. Karami Mohammadi, "Study Neo-Hookean and Yeoh Hyper-Elastic Models in Dielectric Elastomer-Based Micro-Beam Resonators", *Latin American Journal of Solids and Structures*, 2016, <http://dx.doi.org/10.1590/1679-78252432>.
۱۵. اردشیر کریمی محمدی، فرشاد یادگاری، "ارتعاشات نوار گرافنی دو لایه دارای رکت محوری با در نظر گرفتن اثر برش بین لایه ای" *مجله علمی پژوهشی مهندسی مکانیک مدرس*، (۱۳۹۵).
۱۶. اردشیر کریمی محمدی، محمد عباسی، "تحلیل ارتعاشات یک نوع تیر مونتتا ژشده میکروسکوپ نیرو اتمی به روش ال دقیق و بر اساس تئوری تنش کوپل اصلاح شده" *مجله علمی پژوهشی امیرکبیر*، (۱۳۹۵).
17. Abbasi M., A. Karami Mohammadi, "Study of the sensitivity and resonant frequency of the torsional modes of an AFM cantilever with a sidewall probe based on a nonlocal elasticity theory", *Microscopy Research And Technique*, 201۵, <http://dx.doi.org/10.1002/jemt.22488>.
18. A. Karami Mohammadi, N. Ale Ali, "Effect of High Electrostatic Actuation on Thermoelastic Damping in Thin Rectangular Microplate Resonators, *Journal Of Theoretical and Applied Mechanics*, (2015).
۱۹. اردشیر کریمی محمدی، مهدی داوری، "تأثیر میرایی ترموالاستیک بر ارتعاشات متقار □ محوری ورق میکرو دایره ای دوار"، *مجله علمی پژوهشی مهندسی مکانیک هوشنضا*، (۱۳۹۴).

۲۰. اردشیر کرمی محمدی، نسیم آل علی، "بررسی اثر میرایی ترموالاستیک در مدل غیرخطی تشدید کننده‌های میکروالکترومکانیکی با روش تربیع دیفرانسیلی" مجله علمی پژوهشی روشهای عددی در مهندسی، تابستان (۱۳۹۴).

21. Haddadzadeh, R., Karami Mohammadi, A., "Transient Analysis of Nonlinear Euler-Bernoulli Micro-Beam with Thermoelastic Damping, via Nonlinear Normal Modes", Journal of Sound and Vibration, 2014.

22. A. Karami Mohammadi, N. Ale Ali, "Vibrational behavior of an electrically actuated micro-beam with thermoelastic damping, Journal of Mechanics, (2014).

۲۳. اردشیر کرمی محمدی، محمد عباسی، بررسی اثر اندازه بر رفتار ارتعاشی یک نوع تیر مونتاز شده میکروسکوپ نیرو اتمی، با استفاده از تئوری الاستیسیته گرادیان کرنش، مجله علمی پژوهشی مهندسی مکانیک مدرس، (۱۳۹۳).

24. Abbasi M., A. Karami Mohammadi, "A Detailed Analysis of Resonant Frequency and Sensitivity of Flexural Modes of an Atomic Force Microscope Cantilevers with Sidewall Probe based on a Nonlocal Elasticity Theory", Journal of Mechanical Engineering, 2013.

25. Abbasi M., A. Karami Mohammadi, "Study of the sensitivity and resonant frequency of the flexural modes of an AFM microcantilever modeled by strain gradient elasticity theory", Proc. IMechE Vol. Part C: J. Mechanical Engineering Science, 2013.

۲۶. محمد عباسی، اردشیر کرمی محمدی، بررسی رفتار ارتعاشی وابسته به اندازه برای تیر میکروسکوپ نیرو اتمی با رابط عمودی جهت روبش جداره، مجله علمی پژوهشی مهندسی مکانیک جامدات، تابستان (۱۳۹۲).

27. A. Karami Mohammadi, N. Ale Ali, "Effects of Non-Linear Suspension on Hunting and Critical Velocity of Railway Wheelset, Int. J. Advanced Design and Manufacturing Technology, Vol 6/No 2/ June 2013.

28. Karami Mohammadi A., R. Rashidi, F. Bakhtiari Nejad, "Numerical Analysis of A Rigid Rotor Supported By Aerodynamic Four-Lobe Journal Bearing System With Mass Unbalance", Commun Nonlinear Sci Numer Simulat 17 (2012) 454-471.

۲۹. اردشیر کرمی محمدی، نسیم آل علی، میرایی ترموالاستیک در میکروصفحه لقی تحت بار الکترواستاتیکی، مجله علمی پژوهشی مهندسی مکانیک مدرس، سال ۱۲، شماره ۳، شهریور ۹۱.

30. N. Ale Ali, A. Karami Mohammad, "Thermoelastic Damping in Clamped-clamped Annular Microplate, Applied Mechanics and Materials, Vols. 110-116 (2012) pp 1870-1878.

31. Ardeshir Karami Mohammadi, Mojtaba Amjadipoor, "Single Walled Carbon Nanotube as Ultrahigh Nanoresonators", Journal of Vibroengineering. September 2011. volume 13, issue 3, issn 1392-8716, pp 414-422.

32. **Ardeshir Karami Mohammadi, Mohammad Sheibani**, “*A Non-Parametric Hysteresis Model for Magnetorheological Dampers*”, Journal of Vibroengineering, September 2011. volume 13, issue 3. issn 1392-8716, pp 451-460.
33. **Abbasi M., A. Karami Mohammadi**, “*A New Model for Investigating the Flexural Vibration of An Atomic Force Microscope Cantilever*”, Ultramicroscopy, October 2010, Vol. 110, no 11, 1374-1379.
34. **R. Rashidi, A. Karami Mohammadi, F. Bakhtiari Nejad**, “*Rotor Mass Effect on Nonlinear Dynamic Behavior of Aerodynamic Noncircular Journal Bearing Systems*”, Iranian Journal of Science & Technology, Transaction B: Engineering, Vol. 34, No. B2, pp 215-230.
35. **Karami Mohammadi A., Rashidi, R., Bakhtiari Nejad, F.**, “*Bifurcation and Nonlinear Dynamic Analysis of a Rigid Rotor Supported by Two-Lobe Noncircular Gas- Lubricated Journal Bearing System*” Nonlinear Dynamics, vol 61, no 3, 30 March 2010, 783-802.
36. **R. Rashidi, A. Karami Mohammadi, F. Bakhtiari Nejad**, “*Effect of bearing number on non-linear dynamic behavior of aerodynamic non-circular journal bearing systems*” Proc. IMechE Vol. 223 Part J: J. Engineering Tribology, Feb. 2010.

۳۷. اصغر دشتی ر□ مت آبادی، اردشیر کریمی محمدی، رضا رشیدی، “بررسی اثر زاویه انحراف بر عملکرد سیستم یاتاق□ های گازی غیر مدور” مجله علمی پژوهشی مهندسی مکانیک دانشگاه تربیت مدرس، سال ۱۰، شماره ۲، تابستان ۸۹.

38. **Karami Mohammadi A., Rashidi R., Bakhtiari Nejad F.**, “*Preload Effect on Nonlinear Dynamic Behavior of a Rigid Rotor Supported by Noncircular Gas-Lubricated Journal Bearing Systems (Three and Four Lobe)*”, Nonlinear Dynamics, vol 60, no 3, 30 sept. 2009, 231-253.
39. **Karami Mohammadi A., Rashidi R., Bakhtiari Nejad F.**, “*Preload Effect on Nonlinear Dynamic Behavior of Aerodynamic Two-Lobe Journal Bearings*”, Journal of Aerospace Science and Technology, Vol 5, no 6, dec. 2008, 99-133.
40. **Karami Mohammadi, A., (2005)**, “*Active Control of Vehicle Active Suspension with Preview, using a Variable Structure Model Reference Adaptive Controller*”, Int. journal of Autonomous Vehicles.
41. **Bakhtiari-Nejad F., A. Karami Mohammadi, (1998)**, “*Active Vibration Control of Vehicles with Elastic Body, using Model Reference Adaptive Control.*”, the journal of Vibration and Control, July 1998.

PROFESSIONAL ACTIVITIES AND CERTIFICATIONS

Service activities

- Reviewer of Journal of Sound and Vibration
- Reviewer of Journal of Nonlinear Dynamics
- Reviewer of Journal of Vehicle System Dynamics
- Reviewer of Journal of Vibration and Control
- Reviewer of Journal of Mechanical Engineering Part C (IMEMC)
- Reviewer of Journal of Intelligent Material Systems and Structures
- Reviewer of Journal of Tribology
- Reviewer of Journal of Microsystem Technologies
- Reviewer of Journal of Mechanical Science and Technology
- Reviewer of Journal of Meccanica
- Reviewer of Journal of Industrial Lubrication and Tribology
- Reviewer of Journal of Sandwich Structures and Materials
- Reviewer of Journal of the Brazilian Society of Mechanical Sciences and Engineering
- Reviewer of Asian Journal of Control (AJC)
- Reviewer of Journal of Steel and Composite Structure
- Reviewer of Asian Journal of Smart Materials and Structures
- Reviewer of International Journal of Mechanical Sciences
- Etc.

Professional affiliation

- Vibrations Institute by 2018.
- Iranian Society of Mechanical Engineers (ISME)
- Iranian Society of Acoustics and Vibrations (ISAV)
- American Society of Mechanical Engineers (ASME)
- Institute of Electrical and Electronics Engineers (IEEE)
- Etc.

LANGUAGE PROFICIENCY

Persian (Native)

English (Proficient)