



Resume



First name: Jafar

Last name: Rouzegar

Academic title: Associate professor

Area of Specialty: Finite Element Methods, Fracture Mechanics, Fatigue Crack Growth, Plate and Shell Theories, Elasticity and Viscoelasticity, Fractional Calculus, Recycling of GRP materials, Thin-Walled Energy Absorbers, Storage Tanks, Pressure Vessels, Piping and Pipeline Systems, Metallic and Non-Metallic (Rubber and Fabric) Expansion Joints, and Elastomeric Bearings and Isolators.

Areas of Interest: Piping design and fault detection, Mechanical equipment design, Mechanical failure analysis

Projects & Research Activities: Conducted the following industrial projects:

1. Basic design of elastomeric bearing test machine, Iran Industrial Vibration Co., 2024.
2. Stress analysis and crack growth simulation in turbine blade, Isfahan (Shahid Montazeri) Power Plant, 2021.
3. Stress and failure analysis of the feed gas piping and their flexible hoses, Shadegan Steel Company, 2020.

4. Stress and failure analysis for the feed gas piping system, Ghadir Neyriz Steel Company, 2019.
5. Design and optimization of the underground piping of Farashband gas pressure boosting station, Iranian Gas Transmission Co., 2018.
6. Failure analysis of tension bolts in the EGT turbine of Farashband gas pressure boosting station, Iranian Gas Transmission Co., 2018.
7. Failure analysis of the hot piping sections of Styrene Monomer Unit, Pars Petrochemical Co., 2016.
8. Stress and buckling analyses of the skirt section of Tower T-220-52, Pars Petrochemical Co., 2016.
9. Design of a Prony friction brake system for applying the load on a 200kW electrical motor, Shahid Chamran University of Ahvaz, 2012

Selected publication

1. Jafar Rouzegar, Maryam Davoudi, Forced vibration of smart laminated viscoelastic plates by RPT finite element approach, *Acta Mechanica Sinica*, (2020)
2. Hosseininia, M., Heydari, M.H., Rouzegar, J., Cattani C., A meshless method to solve nonlinear variable-order time fractional 2D reaction–diffusion equation involving Mittag-Leffler kernel, *Engineering with Computers* (2020), <https://doi.org/10.1007/s00366-019-00852-8>
3. Jafar Rouzegar, Roya Koohepeima, Farhad Abad, Dynamic analysis of laminated composite plate integrated with a piezoelectric actuator using four-variable refined plate theory, *Iranian Journal of Science and Technology, Transactions of Mechanical Engineering*, (2020), 44, 557-570
4. Jafar Rouzegar, Abbas Niknejad, Seyed Mohammad Elahi, Seyed Ahmad Elahi, Seyed Ali Elahi, Experimental Investigation into the Energy Absorption of Composite-metal Tubes Subjected to Lateral Load, *Iranian Journal of Science and Technology, Transactions of Mechanical Engineering*, (2020), 44, 585-598

5. Farhad Abad, Jafar Rouzegar, Exact wave propagation analysis of moderately thick Levy-type plate with piezoelectric layers using spectral element method, *Thin-Walled Structures*, (2019), 141, 319-331
6. Jafar Rouzegar, Mohammad Karimi, Experimental Investigation on the Splitting of Center-Notched Circular Tube, *International Journal of Materials, Mechanics and Manufacturing*, (2018), 6(6), 392-396
7. Rouzegar J., Assaee H., Saeedi Fakher M.S., Niknejad A., A novel method for enhancing the energy absorption characteristics of circular tubular structures under axial splitting, *Proc. IMechE, Part D: Journal of Automobile Engineering*, (2018), 232(13), 1747-1761
8. Jafar Rouzegar, Hasan Assaee, Seyed Mohammad Elahi, Hessam Asiaei, Axial crushing of perforated metal and composite-metal tubes, *Journal of the Brazilian Society of Mechanical Sciences and Engineering* (2018), 40, 349
9. Seyed Mohammad Elahi, Jafar Rouzegar, Hasan Assaee, Axial splitting of conical frusta: Experimental and numerical study and crashworthiness optimization, *Thin-Walled Structures* (2018), 127, 604-616
10. Jafar Rouzegar, Arefeh Abbasi, A refined finite element method for bending analysis of laminated plates integrated with piezoelectric fiber reinforced composite actuators, *Acta Mechanica Sinica*, (2018), 34(4), 689-705
11. Rouzegar, J., Sayedain M., RPT Finite Element Formulation for Linear Dynamic Analysis of orthotropic Plates, *Scientia Iranica, Transaction B- Mechanical Engineering*, (2018), 25(2), 813-823
12. Jafar Rouzegar , Mohammad Gholami, Creep and recovery of viscoelastic laminated composite plates, *Composite Structures* (2017), 181, 256-272
13. Jafar Rouzegar, Arefeh Abbasi, A refined finite element method for bending of smart functionally graded plates, *Thin-Walled Structures* (2017), 120, 386-396
14. Farhad Abad, Jafar Rouzegar, An exact spectral element method for free vibration analysis of FG plate integrated with piezoelectric layers, *Composite Structures* (2017), 180, 696-708
15. Elahi S. A., Rouzegar J., Niknejad A., Assaee H., Theoretical study of absorbed energy by empty and foam-filled composite tubes under lateral compression, *Thin-Walled Structures* (2017), 114, 1-10.

16. Rouzegar, J., Abdoli Sharifpoor R., Finite Element Formulations for Buckling Analysis of Isotropic and Orthotropic Plates using Two-Variable Refined Plate Theory, Iranian Journal Science and Technology, Transaction B- Mechanical Engineering, (2017), 41,177-187
17. Rouzegar, J., Abdoli Sharifpoor R., Finite Element Formulations for Free Vibration Analysis of Isotropic and Orthotropic Plates using Two-Variable Refined Plate Theory. Scientia Iranica, Transaction B- Mechanical Engineering, (2016), 23(4), 1787-1799.
18. Rouzegar J., Karimi M., Numerical and experimental study of axial splitting of circular tubular structures, Thin-Walled Structures (2016), 105, 57-70
19. Assaee H., Rouzegar J., Saeedi Fakher M.S., Niknejad A., Axial splitting of composite columns with different cross sections, Thin-Walled Structures (2016), 99, 109-118
20. Rouzegar, J., Abdoli S. R., Flexure of thick plates resting on elastic foundation using two-variable refined plate theory, Archive of Mechanical Engineering, (2015), 62(2), 181-203
21. Niknejad A., Abdolzadeh Y., Rouzegar J., Abbasi M., Experimental study on energy absorption capability by circular corrugated tubes under the lateral and axial loadings, Proc. IMechE, Part D: Journal of Automobile Engineering, (2015), 229(13), 1-23
22. Rouzegar J., Abad F., Free vibration analysis of FG plate with piezoelectric layers using four-variable refined plate theory, Thin-Walled Structures, (2015), 89, 76-83
23. Rouzegar, J., Abad F., Analysis of cross-ply laminates with piezoelectric fiber-reinforced composite actuators using four-variable refined plate theory, Journal of Theoretical and Applied Mechanics, (2015), 53(2), 439-452
24. Rouzegar J., Assaee H., Niknejad A., Elahi S.A., Geometrical discontinuities effects on lateral crushing and energy absorption of tubular structures, Materials and Design, (2015), 65, 343-359
25. Rouzegar J., Golami M., Thermo-elastic Bending Analysis of Functionally Graded Sandwich Plates by Hyperbolic Shear Deformation Theory. Scientia Iranica, Transaction B- Mechanical Engineering, (2015), 22(2), 561-577
26. Rouzegar, J., Abdoli Sharifpoor R., A Finite Element Formulation for bending analysis of isotropic and orthotropic plates based on Two-Variable Refined Plate Theory. Scientia Iranica, Transaction B- Mechanical Engineering, (2015), 22(1), 196-207

27. Eslami H., Mehdipour F., Setoodeh A., Rouzegar J., Nanoconfined Polymers: A Computational approach, *Molecular Simulation/Journal of Experimental Nanoscience*, (2015), 41(5-6), 1-15
28. Rouzegar, J., Mirzaei, M., A comparative study on 2D crack modelling using the extended finite element method, *MECHANIKA*. (2013), 19(4), 390-397.
29. Rouzegar, J., Mirzaei, M., Modeling Dynamic Fracture in Kirchhoff Plates and Shells using the Extended Finite Element Method, *Scientia Iranica, Transaction B- Mechanical Engineering*, (2013), 20(1), 120-130.
30. Rahimi G. H., Rouzegar, J., Elastic-Plastic Analysis of cylindrical Pressure Vessels with Variable Thickness Heads, *International journal of engineering science*, 2006