

Majid Reza AYATOLLAHI

Distinguished Professor

**Director of Fatigue and Fracture Research Laboratory,
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EDUCATION

Ph.D., Mechanical Engineering, University of Bristol, Bristol, UK, 1995-1998
Thesis title: Geometry and Constraint Effects in Mixed Mode Fracture.

M.Sc., Mechanical Engineering, Amirkabir University of Technology,
(Tehran Polytechnic), Tehran, Iran, 1989-1991.
Thesis title: Dynamic Finite Element Analysis of Axisymmetric Shells on Elastic
Foundation by Modal Analysis.

B.Sc., Mechanical Engineering, Iran University of Science and Technology,
Tehran, Iran, 1983-1988.
Final project title: Static Finite Element Analysis of Axisymmetric Shells Under
Mechanical and Thermal Loads.

AREAS OF INTEREST

Fracture Mechanics
Computational Solid Mechanics
Experimental Solid Mechanics

AWARDS

- Top Reviewer Award, Fatigue and Fracture of Engineering Materials and Structures, 2016.
- Top Paper Award (highest-citation paper published in 2013), Fatigue and Fracture of Engineering Materials and Structures, 2016
- Distinguished researcher of the year, Iran University of Science and Technology, 2016.
- Distinguished professor of the year for highly cited journal papers, Iran University of Science and Technology, 2015.
- Distinguished professor of the year in international collaborations, Iran University of Science and Technology, 2015.
- **NATIONAL DISTINGUISHED PROFESSOR of the year in the Islamic Republic of Iran**, Selected by Ministry of Science, Research and Technology, Awarded by the Iranian President, 2014.
- Distinguished professor of the year in international collaborations, Iran University of Science and Technology, 2013.
- Distinguished researcher of the year, Iran University of Science and Technology, 2012.
- Distinguished professor of the year, Iran University of Science and Technology, 2011.
- Distinguished researcher of the year, Iran University of Science and Technology, 2010.
- Distinguished researcher of the year, Iran University of Science and Technology, 2009.
- Director of the Second Top Research Laboratory, Iran University of Science and Technology, 2003.
- Best Vice-Chair in Research among the University Schools, Iran University of Science and Technology, 2000.

Thesis Supervision Awards:

- Supervisor of the best mechanical engineering M.Sc. thesis of the year in Iran, Awarded by the Iranian Society of Mechanical Engineers, Student name: Roohollah Hashemi, 2005.
- Supervisor of the best M.Sc. thesis of the year in the whole engineering disciplines in Iran, Awarded by “Jahad Daneshgahi” affiliated to the Iranian Ministry of Science, Research and Technology, Student name: Roohollah Hashemi, 2005.
- Supervisor of the best mechanical engineering M.Sc. thesis of the year in Iran, Awarded by the Iranian Society of Mechanical Engineers, Student name: Mahmoud Mostafavi, 2006.
- Supervisor of the best B.Sc. final project of the year in Iran in mechanical engineering, Awarded by the Iranian Society of Mechanical Engineers, Student name: Morteza Iranzad, 2007.

- Supervisor of the best B.Sc. final project of the year in Iran in mechanical engineering, Awarded by the Iranian Society of Mechanical Engineers, Student name: Reza Aghazadeh, 2008.
- Supervisor of the best mechanical engineering Ph.D. thesis of the year in Iran, Awarded by the Iranian Society of Mechanical Engineers, Student name: M. R.M. Aliha, 2009
- Supervisor of the distinguished Ph.D. thesis of the year in the whole engineering disciplines in Iran, in the section of Young Researchers Award, Awarded by “Jahad Daneshgahi” affiliated to the Iranian Ministry of Science, Research and Technology, Student name: Alireza Torabi, 2010.
- Supervisor of the best mechanical engineering M.Sc. thesis of the year in Iran, Awarded by the Iranian Society of Mechanical Engineers, Student name: Atefeh Karimzadeh, 2012.

PROFESSIONAL WORK EXPERIENCE

1. School of Mechanical Engineering, Iran University of Science and Technology.
Distinguished Professor, July 2017- present
Professor, 2007-2017
Associate Professor, 2003-2007
Assistant Professor, 1999-2003
Instructor, 1989-1994

Teaching:

Graduate courses: Advanced Numerical Analysis, Finite Element Method, Fracture Mechanics

Undergraduate Courses: Statics, Computer Aided Machine Design, Structural Integrity, Strength of Materials

2. Invited professor for lecturing a compact PhD course “Fracture Mechanics”, Ploiecnico di Milano, May 2015
3. Invited professor for lecturing a compact PhD course “Fracture Mechanics”, University of Rome-Sapienza, February 2016
4. University of Bristol, Bristol, UK
Teaching assistant: (1995-1998)
Laboratory supervision: Strength of Materials Lab and Material Science Lab
Example Class: Strength of Materials

ADMINISTRATIVE EXPERIENCE

- Vice Chair in Research Affairs (July 2014-Present), School of Mechanical Engineering, IUST.
- Director of the Applied Mechanics Educational Group (2008- July 2014), School of Mechanical Engineering, IUST

- Vice Chair in Research Affairs (April 2000-May 2008), School of Mechanical Engineering, IUST.
- Director of Fatigue and Fracture Research Laboratory (2001-present), School of Mechanical Engineering, IUST.
- Member of committee for promotion assessment (2004-present), School of Mechanical Engineering, IUST.
- Member of University research council (2000-2008), Iran University of Science and Technology.
- Director of the B.Sc. projects office (1989-1993), School of Mechanical Engineering, IUST.

INTERNATIONAL RECOGNITIONS

- **Editorial board member:** International Journal of Pressure Vessels and Piping (since June 2012)
- **Editorial board member:** Structural Engineering and Mechanics (Since February 2013)
- **Editorial board member:** Theoretical and Applied Fracture Mechanics (Since December 2013)
- **Editorial board member:** International Journal of Rock Mechanics and Mining Science (Since May 2016)
- **Editorial board member:** Fatigue and Fracture of Engineering Materials and Structures (Since October 2016)
- **Editorial board member:** Journal of Materials: Design and Applications, Proceedings of the Institution of Mechanical Engineers, Part L
- **Guest co-editor:** Advances in Materials Science and Engineering, Special issue "Brittle or Quasi-Brittle Fracture of Engineering Materials", 2014.
- Member of ISRM committee for development of standard for fracture toughness testing by SCB specimen, (by invitation), 2011-2012.
- Iran representative in the Asian Society of Experimental Mechanics (ASEM)
- Research collaboration with University of Bristol, UK.
- Research collaboration with Norwegian University of Science and Technology (NTNU), Norway.
- Research collaboration with University of Padua, Italy.
- Research collaboration with Politecnico di Milano, Italy.
- Research collaboration with University of Rome (Sapienza), Italy.
- University of Malaya (UM), Malaysia.
- Technical University of Graz (TU Graz), Austria.
- Research collaboration with Universiti Teknologi Malaysia (UTM), Malaysia.

Fellowships/Scholarships

- Invited professor for lecturing an 8-day compact course "Fracture Mechanics" to PhD students, Faculty of Engineering, University of Rome "Sapienza", Italy, February 2016.
- High Impact Research (HIR) Icon to University of Malaya, Faculty of Engineering, University of Malaya, August 2015.
- Invited professor for lecturing a 7-day compact course on Fracture Mechanics to PhD students, Mechanical Engineering Department, Politecnico di Milano, Italy, May 2015.
- Invited visiting professor, Faculty of Engineering, University of Malaya, Malaysia, January 2015.
- Invited visiting professor, Faculty of Mechanical Engineering, Universiti Teknologi Malaysia, Malaysia, November 2014.
- Invited visiting professor, Faculty of Petroleum and Renewable Energy, Universiti Teknologi Malaysia, Malaysia, April 2013.
- Invited visiting professor, Faculty of Engineering, University of Malaya, Malaysia, January 2013.
- Invited visiting professor, Faculty of Engineering, University of Malaya, Malaysia, April 2012.
- A visiting fellowship in the Department of Mechanical Engineering at the University of Bristol, UK, August and September 2002.
- A visiting fellowship in the Department of Mechanical Engineering at the University of Bristol, UK, August and September 1999.
- A scholarship awarded by the Iranian Ministry of Science, Research and Technology for a Ph.D. degree program in UK (1995-1998).
- A complementary three-year research grant awarded by British Energy plc. (UK) for Ph.D. studies (Feb 1995- Jan. 1998).
- An additional one-year research grant awarded by the British Energy plc. (UK) for doing an experimental fracture research work (Feb. 1998-Jan. 1999).
- An eight-week scholarship by the Government of Malaysia for participation in a fully funded short course on "Training Methodology" in Malaysia (February and March 1991).
- A scholarship awarded by the Iranian Ministry of Science, Research and Technology for a two-year M.Sc. Program (1989-1991).

International Keynote/Invited speech

- **Keynote speaker**, Asian Conference on Experimental Mechanics, Bali, Indonesia, August 2017.
- **Keynote speaker**, International Conference on Processing and Manufacturing of Advanced Materials (THERMEC2016), Austria, May 2016

- **Invited speaker**, University of Malaya (UM), Malaysia, January 2015
- **Keynote speaker**, XVII International Colloquium on Mechanical Fatigue of Metals, Verbania, Italy, June 2014
- **Invited speaker**, Universiti Teknologi Malaysia (UTM), November 2014
- **Invited speaker**, Technical University of Graz (TUGraz), Austria, November 2013
- **Invited speaker**, Universiti Teknologi Malaysia (UTM), April 2013
- **Invited speaker**, University of Malaya (UM), Malaysia, January 2013
- **Invited speaker**, University of Malaya (UM), Malaysia, April 2012

SERVED AS REVIEWER FOR:

International Research Grants:

1. Czech Science Foundation, 2011
2. Czech Science Foundation, 2012
3. Austrian Science Fund, 2015

International Journals:

1. Engineering Fracture Mechanics,
2. International Journal of Fracture,
3. Theoretical and Applied Fracture Mechanics
4. International Journal of Solids and Structures,
5. International Journal of Pressure Vessels and Piping,
6. International Journal of Rock Mechanics and Mining Science,
7. International Journal of Damage Mechanics,
8. Materials and Design,
9. Structural Engineering and Mechanics,
10. Meccanica,
11. Experimental Mechanics,
12. European Journal of Mechanics- A. Solids,
13. Rock Mechanics and Rock Engineering,
14. Engineering Geology
15. Computational Materials Science,
16. ASME-Journal of Applied Mechanics,
17. ASCE-Journal of Engineering Mechanics,
18. Mechanics of Advanced Materials and Structures,
19. Proceedings of IMechE-Part C Journal of Mechanical Engineering Science,
20. Journal of Nanomaterials,
21. Carbon,
22. Materials Science and Engineering-A,
23. Express Polymer Letters,
24. International Journal of Fatigue.
25. International Journal of Applied Ceramic Technology.
26. Ceramics International
27. Composites Part B

28. Journal of Composite Materials
29. International Journal of Mechanical Sciences
30. Journal of Mechanical Science and Technology
31. Advances in Mechanical Engineering
32. Proceedings of IMechE-Part L, Journal of Materials: Design and Applications
33. International Journal of Adhesion and Adhesives
34. Journal of Adhesion
35. Optics and Lasers in Engineering
36. Journal of Testing and Evaluation
37. Geotechnical Testing Journal
38. Computers and Concrete
39. Latin American Journal of Solids and Structures
40. Scientia Iranica
41. Multidiscipline Modeling in Materials and Structures
42. Nanoscale Research Letters
43. Polymer Composites
44. Polymer Testing

National Journals: Iranian Journal of Science and Technology, ISME Journal, IUST International Journal of Engineering Science, Modarres Journal, Amirkabir Journal, Mechanical and Aerospace Journal of Engineering, JAST, Ferdowsi University Engineering Journal, Esteghlal Journal.

REGISTERED PATENTS

Twelve nationally registered patents.

THESIS SUPERVISION:

PhD theses:

1. Zakeri, M., “Photoelastic analysis of cracks under mode I, mode II and mixed mode loading”, 2008.
2. Aliha, M.R.M., “Mixed mode fracture in rock materials”: 2009.
3. Torabi, A.R., "Mixed mode brittle fracture in notched components", 2009.
4. Shadlou, S., “Fracture behavior of epoxy-based nanocomposites reinforced by MWCNTs” 2011.
5. Akbardoost, J. “Geometry and size effects on mixed mode fracture in quasi-brittle materials”, 2012.
6. Pirmohammad S., “Experimental investigation of brittle fracture in hot mixed asphalt at low temperatures”, 2013.
7. Saboori, B. “Investigation of the effect of out-of-plane shear load on fracture behavior of brittle polymers and carbon nanotube/epoxy nanocomposites”, 2015.
8. Chamani H.R. “Micromechanical study of fracture in ductile cast iron”, 2016.
9. Rashidi Moghaddam, M. “Geometry effects on fatigue and fracture of cracked components – An energy-based approach”, 2017

10. Akhavan Safar, A.R. "Failure load prediction of single lap adhesive joints based on the theory of critical distances", 2017.
11. Mahdavi, E. "Study of crack growth in rock test specimens" 2017.
12. Karimzadeh, A (PhD student), Expected year of graduation 2017.
13. Elahi, P. (PhD student), Expected year of graduation 2018.
14. Rahimi, A.S. (PhD student), Expected year of graduation 2018.
15. Heydari Meibodi, M. (PhD student), Expected year of graduation 2018.

MSc theses supervised: More than 75 MSc theses 2000-2015

More than **35 B.Sc.** final year projects supervised.

PUBLICATIONS

a. Books

1. Rahmandoust Moones, Ayatollahi, M.R. (2016) Characterization of Carbon Nanotube-Based composites Under Consideration of Defects, ISBN: 978-3-319-00250-7, **Springer International**, Switzerland.
2. Sedighiani, K. and Ayatollahi, M.R. (2012) Finite element analysis; theory and application with ABAQUS, ISBN: 978-600-5716-82-5, In Farsi.
3. Ayatollahi, M.R. (2012) Crack propagation in asphalt concretes, ISBN: 978-600-2690-12-8, In Farsi.
4. Ghafoori, R., Ayatollahi, M.R., Keshmiri, A.R (2012) Plastic injection process, Vol 3 Injection Machines, Mold design an Standards, Design of Experiments, ISBN: 978-964-210-134-4, In Farsi.
5. Ayatollahi, M.R., Ghafoori, R., Abbaszadeh, M. (2012) Plastic injection process, Vol. 2 Gas-Assisted, Multi-material, Microcellular, Fiber Orientation, Compression, ISBN: 978-964-210-137-5, In Farsi.
6. Ayatollahi, M.R., Ghafoori, R., Sedaghat, O. (2010) Plastic injection process, Vol. 1 Simulation by software with some industrial applications, ISBN: 978-964-210-048-4, In Farsi.

b. Journal papers

General information (as of July 2017):

- 1) **h-index: 38 (Scopus)**
- 2) **h-index: 42 (Google scholar)**
- 4) **Total citations: 3814 (Scopus)**
- 5) **Citations since 2013: 3000 (Scopus)**

2017

1. Ayatollahi, M.R., Mirmohammadi, S.A. Asgharzadeh Shirazi, H. (2018) ,The tension-shear fracture behavior of polymeric bone cement modified with hydroxyapatite nano-particles, Archives of Civil and Mechanical Engineering, Vol. 18, No. 1, PP. 50-59.
2. Beigzadeh, B., Mirmohammadi, S.A., Ayatollahi, M.R. (2017) A Numerical study on the effect of geometrical parameters and loading profile on the expansion of stent, Bio-Medical Materials and Engineering, Article in press.
3. Ayatollahi, M.R., Samari, M., Razavi S.M.J, da Silva, L.F.M (2017) Fatigue performance of adhesively bonded single lap joints with non-flat sinusoid interfaces, Fatigue and Fracture of Engineering Materials and Structures, Article in press.
4. Torabi, A.R., Bahrami, B., Ayatollahi, M.R. (2017) Crack growth trajectory prediction in V-notched polymeric specimen under combined compressive-shear loading conditions, Journal of Science and Technology of Composites, Article in press (In Farsi).
5. Heydari-Meybodi, M., Ayatollahi, M.R., Berto, F. (2017) Mixed-mode (I/II) rupture assessment of rubber-like materials weakened by cracks using the averaged strain energy density criterion, Theoretical and Applied Fracture Mechanics, Article in press.
6. Saboori, B., Torabi,A.R., Ayatollahi, M.R., Berto, F. (2017) Experimental verification of two stress-based criteria for mixed mode I/III brittle fracture assessment of U-notched components, Engineering Fracture Mechanics, Article in press.
7. Nemati Giv, Ayatollahi, M.R., A., Razavi, S.M.J., Khoramishad, H. (2017) The Effect of orientations of metal macrofiber reinforcements on mechanical properties of adhesively bonded single lap joints, Journal of Adhesion, Article in press.
8. Rashidi Moghaddam, M. Ayatollahi, M.R., Berto, F. (2017) The application of Strain Energy Density criterion to fatigue crack growth behavior of cracked components, Theoretical and Applied Fracture Mechanics, Article in press.
9. Razavi S.M.J, Ayatollahi, M.R., Esmaeili, E., da Silva, L.F.M. (2017) Mixed-mode fracture response of metallic fiber-reinforced epoxy adhesive, European Journal of Mechanics / A Solids, Vol. 65, PP. 349-359.

10. Ayatollahi, M. R., Moghimi Monfared, R., Barbaz Isfahani, R. (2017) Experimental investigation on tribological properties of carbon fabric composites: effects of carbon nanotubes and nano silica, *Journal of Materials: Design and Applications*, Article in press.
11. Razavi S.M.J, Ayatollahi, M.R., Amuzadi, A. Berto, F. (2017) Effects of different indentation methods on fatigue life extension of cracked specimens, *Fatigue and Fracture of Engineering Materials and Structures*, Article in press.
12. Ch. Darabi, A., Chamani, H.R., Kadkhodapour, J., P.Anaraki, A., Alaie, A. Ayatollahi M. R. (2017) Micromechanical analysis of two heat-treated dual phase steels: DP800 and DP980, *Mechanics of Materials*, Vol. 110, PP. 68-83.
13. Heydari-Meybodi, M., Ayatollahi, M.R., Deghany, M., Berto, F. (2017) Mixed-mode (I/II) failure assessment of rubber materials using the effective stretch criterion, *Theoretical and Applied Fracture Mechanics*, Article in press.
14. Rashidi Moghaddam, M. Ayatollahi, M.R., Berto, F. (2017) Mixed Mode Fracture Analysis Using Generalized Averaged Strain Energy Density Criterion for Linear Elastic Materials, *International Journal of Solids and Structures*, Vol. 120, PP. 137-145.
15. Ayatollahi, M.R., Torabi, A.R., Majidi, H.R. (2017) Brittle fracture in key-hole notched polymer specimens under combined compressive-shear loading, *Amirkabir Journal of Science and Research Mechanical Engineering*, Article in press, (In Farsi).
16. Safaei, S., Ayatollahi, M.R., Saboori, B. (2017) Fracture behavior of GPPS brittle polymer under mixed mode I/III loading, *Theoretical and Applied Fracture mechanics*, Article in press.
17. Torabi,A.R., Saboori, B., Ayatollahi, M.R. (2017) Mode III notch fracture toughness assessment for various notch features, *Physical Mesomechanics*, Article in press.
18. Ayatollahi, M.R., Berto, F., Campagnolo, A., Gallo, P., Tang, K. (2017) Review of local strain energy density theory for the fracture assessment of Vnotches under mixed mode loading, *Engineering Solid Mechanics*, Vol. 5, PP. 113-132
19. Asgharzadeh Shirazi, H., Ayatollahi, M.R., Asnafi, A. (2017) To reduce both the maximum stress and stress shielding effect around a dental implant–bone interface using radial functionally graded biomaterials, *Computer Methods in Biomechanics and Biomedical Engineering*, Article in press.
20. Ayatollahi, M. R., Barbaz Isfahani, R., Moghimi Monfared (2017) Effects of multi-walled carbon nanotube and nanosilica on tensile properties of woven

carbon fabric-reinforced epoxy composites fabricated using VARIM, *Journal of Composite Materials*, Article in press.

21. Akhavan Safar, A.R; Ayatollahi, M. R.; Rastegar, S., da Silva, L.F.M. (2017) Impact of geometry on the critical values of the stress intensity factor of adhesively bonded joints, *Journal of Adhesion Science and Technology*, Vol. 18, PP. 2071-2087.
22. Akhavan Safar, A.R; Ayatollahi, M. R.; Bahreinian, S.A., da Silva, L.F.M. (2017) Application of adhesively bonded single lap joints for fracture assessment of adhesive materials, *Journal of Adhesion*, Article in press.
23. Saboori, B., Ayatollahi, M. R. (2017). Experimental fracture study of MWCNT/epoxy nanocomposites under the combined out-of-plane shear and tensile loading, *Polymer Testing*, Vol. 59, No 5, PP. 193-202.
24. Koloor S.S.R., Ayatollahi, M.R., Tamin, MN (2017) Elastic-damage deformation response of fiber-reinforced polymer composite laminates with lamina interfaces, *Journal of Reinforced Plastics and Composites*, Article in press.
25. Ayatollahi, M.R., Zakeri, M. (2017) An Improved Definition for Mode I and Mode II Crack Problems, *Engineering Fracture Mechanics*, Vol. 175, PP. 235-246.
26. Asgharzadeh Shirazi, H., Mirmohammadi, S.A., Shaali, M., Asnafi A., Ayatollahi, M.R. (2017) A constitutive material model for a commercial PMMA bone cement using a combination of nano-indentation test and finite element analysis, *Polymer Testing*, Vol. 59, PP. 328-335.
27. Akhavan Safar, A.R; Ayatollahi, M. R.; da Silva, L.F.M. (2017) Strength prediction of adhesively bonded single lap joints with different bondline thicknesses: A critical longitudinal strain approach, *International Journal of Solids and Structures*, Vol. 109, PP. 189-198.
28. Feng, P. Ayatollahi, M. R., Dai, F., Xu, N.W., Zhao, T. (2017) DEM Investigation on Fracture Mechanism of the CCNSCB Specimen under Intermediate Dynamic Loading, *Arabian Journal of Geosciences*, Vol 10, No 2, PP. 1-15.
29. Asgharzadeh Shirazi, H., Ayatollahi, M.R., Karimi, A.R., Navidbakhsh, M. (2017) A comparative finite element analysis of two types of axial and radial functionally graded dental implants with Titanium one around Implant-Bone Interface, *Science and Engineering of Composite Materials*, Article in press
30. Salimi Bani, M., Asgharzadeh Shirazi, H., Ayatollahi, M.R., Asnafi, A. (2017) A New Model for the Artificial Aorta Blood Vessels Using Double-

sided Radial Functionally Graded Biomaterials, Medical and Biological Engineering and Computing, Article in press.

31. Khoramishad, H; Akhavan Safar, A.R; Ayatollahi, M. R.; da Silva, L.F.M. (2017) Predicting static strength in adhesively bonded single lap joints using a critical distance based method: Substrate thickness and overlap length effects, *Journal of Materials: Design and Applications*, Vol. 231, (1-2), PP. 237-246.
32. Ayatollahi, M.R., Nemati Giv, A., Razavi, S.M.J., Khoramishad, H. (2017) Mechanical properties of adhesively single lap bonded joints reinforced with multi-walled carbon nanotubes and silica nanoparticles, *The Journal of Adhesion*, Article in press.
33. Saboori, B., Ayatollahi, M.R. (2017) CNT influence on fracture toughness of a polymer-based nanocomposite under the out-of-plane shear in comparison with pure tensile loading conditions, *Modares Mechanical Engineering Journal*, Vol. 16(10), PP. 441-447 . (In Farsi)
34. Berto, F., A. Ayatollahi, M.R., Campagnolo (2017) Fracture tests under mixed mode I/III loading: an assessment based on the local energy, *International Journal of Damage Mechanics*, Article in press.
35. Ayatollahi, M.R., Razavi S.M.J, Sommitsch, C, Moser, C (2017) Fatigue Life Extension by Crack Repair Using Double Stop-Hole Technique, *Materials Science Forum*, Vol. 879, PP. 3-8.
36. Rashidi Moghaddam, M. Ayatollahi, M.R. Razavi, S.M.J. Berto, F. (2017) Mode II Brittle Fracture Assessment Using an Energy Based Criterion, *Physical Mesomechanics*, Vol. 20(2), PP. 142-148.
37. Aliha, M.R.M., Mahdavi, E, Ayatollahi, M.R. (2017) The influence of specimen type on tensile fracture toughness of rock materials, *Pure and Applied Geophysics*, Article in press.
38. Ayatollahi, M.R., Torabi, A.R., Bahrami, B. (2017) Comprehensive notch shape factors for V-notched Brazilian disk specimens loaded under mixed mode I/II from pure opening mode to pure closing mode, *Archive of Applied Mechanics*, Vol. 87, No 2, PP. 299-313.
39. Razavi S.M.J, Ayatollahi, M.R., Sommitsch, C, Moser, C (2017) Retardation of fatigue crack growth in high strength steel S690 using a modified stop-hole technique, *Engineering Fracture Mechanics*, Vol. 169, PP. 226-237.
40. Hou; Y., Sun; W., Huang; Y., Ayatollahi, M.R., Wang; L., Zhang, J. (2017) A Diffuse Interface Model to Investigate the Asphalt Concrete Cracking Subjected to Shear Loading at Low Temperature, *ASCE Journal of Cold Regions Engineering*, Article in press.

41. Ayatollahi, M.R., Moazzemi, M. (2017) Digital Image Correlation Method for Calculating Coefficients of Williams Expansion in Compact Tension Specimen, *Optics and Lasers in Engineering*, Vol. 90, PP. 26-33.

2016

42. Torabi, A.R., Majidi, H.R., Ayatollahi, M.R. (2016) Brittle failure of key-hole notches under mixed mode I/II loading with negative mode I contributions, *Engineering Fracture Mechanics*, Vol. 168, PP. 51-72.
43. Chamani, H.R., Ayatollahi, M.R. (2016) The effect of Berkovich tip orientations on friction coefficient in nanoscratch testing of metals, *Tribology International*, Vol. 103, PP. 25-36.
44. Berto, F., Marsavina, L., Ayatollahi, M. R., Panin, S. V., Tserpes, K.I (2016) Brittle or Quasi-Brittle Fracture of Engineering Materials, *Advances in Materials Science and Engineering*, Article ID 7094298.
45. Berto, F., Ayatollahi, M.R., Borsato, T., Ferro, P. (2016) Local strain energy density to predict size-dependent brittle fracture of cracked specimens under mixed mode loading, *Theoretical and Applied Fracture Mechanics*, Vol. 86, PP. 217-224.
46. Torabi, A.R., Bahrami, B., Ayatollahi, M.R. (2016) Mixed mode I/II brittle fracture in V-notched Brazilian disk specimens under negative mode I conditions, *Physical Mesomechanics*, Vol. 19(3), PP. 9-24.
47. Berto, F., Campagnolo, A., Ayatollahi, M.R. and Barnoush, A., (2016) Fracture assessment of graphite components weakened by rounded V-notches and subjected to static multiaxial loading. *Procedia Structural Integrity*, Vol. 2, PP.1805-1812.
48. Ayatollahi, M.R., Rashidi Moghaddam, M., Razavi, S.M.J., Berto, F. (2016) Geometry effects on crack path and fracture load in PMMA specimens, *Engineering Fracture Mechanics*, Vol. 163(9), PP. 449-461.
49. Karimzadeh, A., Ayatollahi, M.R., Bushroa, A. (2016), Effect of dental restorative material type and shade on characteristics of two-layer dental composite systems *Latin American Journal of Solids and Structures*, Vol 13 (10), PP. 1851-1865.
50. Chamani, H.R., Ayatollahi, M.R. (2016) Equivalent cone apex angle of Berkovich indenter in face-forward and edge-forward nanoscratch, *Wear*, Vol. 356-357, PP. 53-65.

51. Ayatollahi, M.R., Akbardoost, J, Berto, F. (2016) Size effects on mixed-mode fracture behavior of polygranular graphite, *Carbon*, Vol. 103, PP. 394-403. **(IF, 2016: 6.2)**
52. Ayatollahi, M.R., Heydari-Meybodi, M., Dehghany, M., Berto, F. (2016) A new criterion for rupture assessment of rubber-like materials under mode-I crack loading: The effective stretch criterion, *Advanced Engineering Materials*, Vol. 18(8), PP. 1364-1370
53. Ayatollahi, M.R. Torabi, A.R., Rahimi, A.S. (2016) Brittle fracture assessment of engineering components in the presence of notches: A review, *Fatigue and Fracture of Engineering Materials and Structures*, Vol 39, 267-291.
54. Ayatollahi, M.R., Mahdavi, E., Alborzi, M.J., Obara Y., (2016) Stress intensity factors of semi-circular bend specimens with straight-through and chevron notches, *Rock Mechanics and Rock Engineering*, Vol. 49, No 4, PP. 1161-1172.
55. Asgharzadeh Shirazi, H., Ayatollahi, M.R., Beigzadeh, B. (2016) Preparation and characterization of hydroxyapatite derived from natural bovine bone and PMMA/BHA composite for biomedical applications, *Materials Technology: Advanced Performance Materials*, Vol. 31(8), PP. 448-453.
56. Pirmohammad S., Khoramishad, H., Ayatollahi M.R. (2016) Effects of asphalt concrete characteristics on cohesive zone model parameters of hot mix asphalt mixtures, *Canadian Journal of Civil Engineering*, Vol. 43, PP. 226-232.
57. Ayatollahi, M.R., Torabi, A.R., Bahrami, B. (2016) On the necessity of using critical distance model in mixed mode brittle fracture prediction of V-notched Brazilian disk specimens under negative mode I conditions, *Theoretical and Applied Fracture Mechanics*, Vol. 84, PP. 38-48.
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