



Amirkabir University of Technology
(Tehran Polytechnic)



S.MEHDI REZAEI

Professor
Department of Mechanical Engineering
Construction & Manufacturing

Email:
smrezaei@aut.ac.ir

Phone:

h-index (Scopus):
17

Citations (Scopus):
973

Supervised MSc Theses

#	Thesis title	By	Date
1	Design and Analysis of Body and Legs of Mobile Hexapod Robot	Hossein Poorbafrani & S.Mehdi Rezaei	October 2021
2	Design and Implementation of Walnut Cracking System	Amirhossein Malmir & S.Mehdi Rezaei	September 2021
3	Application of the auxiliary wheel cleaning jet in the grinding of nickel based super alloy with Minimum Quantity Lubrication technique	Omid Hatami Farzaneh & S.Mehdi Rezaei	July 2021
4	Investigation of the effect of inorganic coatings on the rate of filtration in the polishing of optical glasses by the process of working with magnetic intelligence fluid (MRF)	Asghar Karami & S.Mehdi Rezaei	May 2021
5	Experimental investigation on the process parameters effects on the mechanical strength of printed parts with poly ether ether ketone (PEEK) material fabricated via FDM process.	Amir Rouhani & S.Mehdi Rezaei	February 2021
6	Vibration control of a flexible plate by filtered position feedback controller using selfsensing piezoelectric actuator	Ali Khishtan & S.Mehdi Rezaei	February 2020
7	Design and Implementation of a Gripper for Industrial Parts Guided by a Hand Exoskeleton	Ehsan Amirpour & S.Mehdi Rezaei	February 2020
8	Improvement of cutting fluid application in grinding process using additional nanoparticles	Majid Najafimehr & S.Mehdi Rezaei	October 2019
9	Control of a soft robot arm using a FEM-based model	Fateme Sharifi & S.Mehdi Rezaei	August 2019

10	Design and Kinematic and Dynamic Analysis of a planar Microrobot with Piezoelectric Actuators	Omidreza Ahmadzadeh & S.Mehdi Rezaei	July 2019
11	force control of pneumatic cylinder with friction compensation	Arash Aliyari Ghasabe & S.Mehdi Rezaei	March 2019
12	Vibration Control Of Flexible Structures Using Acceleration Feedback And Comparing Its Performance With Position Feedback Controller	Elham Mahmoudi & S.Mehdi Rezaei	March 2019
13	Experimental and Numerical analysis of heat generation in Grinding of Ceramics	Mohammad Bayat & S.Mehdi Rezaei	February 2019
14	Analysis and investigation of manufacturing of composite ceramic brake pad and performance evaluation	Tofigh Palizban & S.Mehdi Rezaei	February 2019
15	Experimental study on the surface integrity and residual stress of nickel base super alloy ball burnishing process	Hashem Sabri & S.Mehdi Rezaei	December 2018
16	Compensation of Machining Error Caused by Tool Deflection via a servomechanism	Mohamad Azizi Yosofvand & S.Mehdi Rezaei	June 2018
17	acceleration control of electro-hydraulic shaking table system	Mostafa Azizi Mollaisa & S.Mehdi Rezaei	February 2018
18	Ultrasonic-Assisted Grinding of Optical Glass	Mohammad Zarei & S.Mehdi Rezaei	February 2018
19	Thermo mechanical simulation of soft tissue in cryosurgery	Mohammad Erisi & S.Mehdi Rezaei	February 2018
20	Experimental investigation and finite element modeling of material removal behavior of optical glass in single grit grinding	Akbar Solhtalab & S.Mehdi Rezaei	January 2018
21	An Experimental Study On Chemical-Mechanical Polishing Of Optical Glass	Masoud Mohammadi & S.Mehdi Rezaei	October 2017
22	Development of magnetic fluid wheel for flat polishing of optical glass	Ferdows Ahmady Vostakolaei & S.Mehdi Rezaei	September 2017
23	Analysis of NiTi shape memory alloy grinding process	Malek Mahmoudi Yamchi & S.Mehdi Rezaei	February 2017
24	Simulation and implementation of manual welding process by virtual reality techniques	Aliakbar Hadinezhad Roudi & S.Mehdi Rezaei	February 2017
25	(Design and control of a Piezoactuated Servo hydraulic valve	Farid Ghorbani Kootenaeei & S.Mehdi Rezaei	February 2017
26	Control of robotic welding process by a non-collocated approach	Reza Ebrahimpour & S.Mehdi Rezaei	February 2017
27	Investigation on grinding process of ceramic matrix composites	Hamed Esmaeili & S.Mehdi Rezaei	February 2017
28	Real-time simulation of soft tissue deformation with hyper - elastic properties	Sayyed Mohssen Mousavi Kani & S.Mehdi Rezaei	July 2016
29	Design and implementation of an intelligent system for determination dressing time in grinding applications	Vahid Forghani & S.Mehdi Rezaei	July 2016

30	position control of actuator in a discrete-event electrohydraulic system	Ahsan Saedzadeh & S.Mehdi Rezaei	February 2016
31	simultaneous fault detection and control in servo hydraulic systems	Mostafa Falahi & S.Mehdi Rezaei	February 2016
32	position control of servo pneumatic actuator with friction compensation	Farzan Soleymani & S.Mehdi Rezaei	February 2016
33	Fault detection in servo-hydraulic systems using artificial neural networks	Siavash Sharifi & S.Mehdi Rezaei	February 2016
34	Investigation of surface quality in abrasive flow finishing (AFF) process	Faraz Khodaie & S.Mehdi Rezaei	September 2015
35	Fault -Tolerant control of electro- hydraulic servo systems	Ali Tivay & S.Mehdi Rezaei	February 2015
36	Mechanical properties extraction of soft tissues by inverse finite element method	Farhad Khajvand & S.Mehdi Rezaei	February 2015
37	Quasi-Static Position Control Of Piezoelectric Actuators Using Self-Sensing	Mina Ahmadi & S.Mehdi Rezaei	February 2015
38	Continuous Dynamic Modeling and Implementation of Position Controller for Bending Piezoelectric Actuators	Manadis Ghanbarbakhsh & S.Mehdi Rezaei	January 2015
39	Robust control of Force in a hydraulic system using two stage proportional relief valve	Reza Nourizadeh Nesheli & S.Mehdi Rezaei	January 2015
40	Finishing of Optical Glassby Magnetic Abrasive Finishing and Process Optimization	Mohsen Rafieifam & S.Mehdi Rezaei	October 2014
41	leakage detection using sensor network and application in oil tanks&pipelines	Majid Ghods & S.Mehdi Rezaei	September 2014
42	Design and Construction of Robot Mechanism of Carpet Weaver Helper	Masoud Heidari & S.Mehdi Rezaei	June 2014
43	Modeling and Implementation of a Servo-Hydraulic System With Variable Displacement Pump in Position and Force Control Modes	Roghayeh Jabbari Firouzjah & S.Mehdi Rezaei	May 2014
44	Design & Implementation of a Visual Servoing system on an endoscopic robot (for robotic maxillofacial surgery)	Mehrnaz Salehian & S.Mehdi Rezaei	March 2014
45	An Enhanced Control Performance for Flexible-Link Manipulators using Piezoelectric Actuators in the presence of saturation	Asieh Aalla & S.Mehdi Rezaei	March 2014
46	Design and Implementation of a Servo-Pneumatic System Using Controller-Observer Scheme	Sepehr Ramezani & S.Mehdi Rezaei	February 2014
47	Design and Stabilization of Self Sensing in Piezoelectric Actuators	Mohsen Asghari & S.Mehdi Rezaei	January 2014
48	Design and implementation of a teleoperation system using pneumatic actuator	Fatemeh Edalatfar & S.Mehdi Rezaei	January 2014
49	optimization of grinding parameters for glass lens	Amir Esmail Zare & S.Mehdi Rezaei	October 2013
50	stability analysis of a bilateral teleoperation system with virtual fixtures	Faezeh Kazemi & S.Mehdi Rezaei	October 2013

51	Design and Implementation of Control Architecture for a Telerobotic System in Tele Presence of Flexible Link Slave Manipulator and Variable Impedance Environment and Operator	Marzie Saghafi & S.Mehdi Rezaei	September 2013
52	A Virtual Reality Implementation of In Vitro fertilization Procedure	& S.Mehdi Rezaei	July 2013
53	Design of controller to avoid dealing with the environment in cell manipulation	Bashir Kalagar & S.Mehdi Rezaei	February 2013
54	Transparency and stability analysis of a nonlinear teleoperation system with flexible link slave	Mohadeseh Yaryan & S.Mehdi Rezaei	February 2013
55	Design and stability analysis of a bilateral Teleoperation system coupled with non-passive environments	Venus Pasandi & S.Mehdi Rezaei	December 2012
56	Design and analysis of a nonlinear cooperative 2- master, 2-slave Teleoperation system	Saed Sina Mir Razavi Salehian & S.Mehdi Rezaei	September 2012
57	Design, control and Implementation of a nonlinear teleoperation system with force estimation	& S.Mehdi Rezaei	September 2012
58	Improvement of stability and performance of a multi-user networked haptic system using PSPM algorithm	& S.Mehdi Rezaei	February 2012
59	Analytical and experimental investigation on loading phenomenon in CBN vitrified wheels in grinding of nickel-based super alloys	& S.Mehdi Rezaei	February 2012
60	design and implementation of an intelligent automated system for container handling	& S.Mehdi Rezaei	January 2012
61	Estimation and cancelling of hand physiological tremor in a teleoperation system	& S.Mehdi Rezaei	January 2012
62	Impedance-Based Structural Health Monitoring For Detection of acid Corrosion Defects	& S.Mehdi Rezaei	November 2011
63	Design, Simulation and implementation of a Robot Controller for Constraint Trajectory Tracking by Hybrid Method	Aghil Jafari & S.Mehdi Rezaei	October 2011
64	Cooperative master_ slave system desing and control for handling of undefined bar	Reza Mohajerpour & S.Mehdi Rezaei	September 2011
65	design of an adaptive image processing and transferring system for a rovr	Abozar Hossein Zadeh Gotb Abad & S.Mehdi Rezaei	July 2011
66	Design of a Teleoperation System in an unknown environment considering transition between unconstrained and constrained motions	Alireza Jafari & S.Mehdi Rezaei	February 2011
67	Discrete-time Time Delayed Bilateral Teleoperation : Modeling and Analysis	Nima Sarli & S.Mehdi Rezaei	February 2011
68	Design Modeling and Control of Teleoperation System Using Proportional Hydraulic Actuator	Ali Zareinezhad & S.Mehdi Rezaei	February 2011
69	Control of Nonlinear Bilateral Teleoperation Using Controller-Observer Scheme	& S.Mehdi Rezaei	January 2011
70	Reduction Of Tissue Indentation In Teleoperated Needle Insertion	Mohammadreza Dehghan & S.Mehdi Rezaei	January 2011
71	Stable bilateral control of 3 DOF time-delayed macro-micro teleoperation system	Hamed Ghafarirad & S.Mehdi Rezaei	September 2010

72	Design and implementation of teleoperation system	Kamal Aghadadi & S.Mehdi Rezaei	February 2010
73	Design and Manufacture of an Intelligent Vacuum Gripper with the Capability of Part Orientation Error Recognition	Mahmood Noorizadeh Abbariki & S.Mehdi Rezaei	January 2010
74	Adaptive Control of a Teleoperation System with nonlinear Actuator and variable time delay	Amir Monemian Esfahani & S.Mehdi Rezaei	January 2010
75	Design of a Macro-Micro Teleoperation System for Soft Environments Using Piezo Actuator	Seyed Mohammad Soltani & S.Mehdi Rezaei	September 2009
76	hysteresis modeling and compensation of piezoelectric actuators in micro machining	Mohammad Shaikh Sofla & S.Mehdi Rezaei	April 2009
77	investigation and improvement in positioning of microactuator for precision grinding by neural network	Mohammad Fazli & S.Mehdi Rezaei	February 2009
78	Design and implementation of anti-sway system for gantry cranes	Ali Rezaee & S.Mehdi Rezaei	December 2008
79	MODELING OF A TELEOPERATION SYSTEM USING PIEZO-ACTUATOR FOR MICROMANIPULATION	Reza Seifabadi & S.Mehdi Rezaei	May 2008
80	AUTOMATION OF PRESS UNLOADING OF AUTOMOTIVE PART	Alireza Odouli & S.Mehdi Rezaei	May 2008
81	DESIGN AND ANALYSIS OF A STACKER-RECLAIMER SYSTEM FOR AUTOMATION OF STORAGE OF GRANULAR SULFUR	Jafar Takabi & S.Mehdi Rezaei	April 2008
82	BEHAVIOR AND MECHANISM ANALYSM ANALYSIS OF PIEZOACTUATOR IN PRECISION GRINDING	Hossein Habibollahi Najafabadi & S.Mehdi Rezaei	March 2008
83	DESIGN AND IMPLEMENTATION OF N AUTOMATED GEARBOX ASSEMBLY CELL	Mahde Shafiee & S.Mehdi Rezaei	April 2007
84	DESIGN AND MANUFACTURE OF A ADHESIVE MICRO/NANO MECHANISM WITH ELECTROCHEMICAL ETCHING	Masoud Safdari & S.Mehdi Rezaei	April 2007

Journal Papers

Portal Records

- 1 Ehsan Amirpour, Rasul Fesharakifard, Hamed Ghafarirad, S.Mehdi Rezaei, Alireza Saboukhi, Mohammad Savabi, Masoud Rahimi Gorji, "A novel hand exoskeleton to enhance fingers motion for tele-operation of a robot gripper with force feedback", MECHATRONICS, November 2021 Vol. 81, Num. 1, Page 1-18, November 2021,
- 2 Hamed Esmaeili, Hamed Adibi, S.Mehdi Rezaei, "Study on surface integrity and material removal mechanism in eco-friendly grinding of Inconel 718 using numerical and experimental investigations", INTERNATIONAL JOURNAL OF ADVANCED MANUFACTURING TECHNOLOGY, January 2021 Vol. 112, Num. 0, Page 1797-1818, January 2021,
- 3 Seied Javad Aaraj Khodaii, Hamed Adibi, Farshad Barazandeh, S.Mehdi Rezaei, Ahmed A.D. Sarhan, "Investigation of the surface integrity, flexural strength on the grinding of alumina for biomedical applications", PRECISION ENGINEERING-JOURNAL OF THE INTERNATIONAL SOCIETIES FOR PRECISION ENGINEERING AND NANOTECHNOLOGY, September 2020 Vol. 67, Num. 0, Page 110-122, September 2020,

- 4 Seied Javad Aaraj Khodaii, Hamed Adibi, Farshad Barazandeh, Akbar Solhtalab, S.Mehdi Rezaei, Ahmed A.D. Sarhan, "Improvement of surface integrity in the grinding of bioceramic partially stabilized zirconia using analytical, numerical, and experimental methods", CERAMICS INTERNATIONAL, June 2020 Vol. 46, Num. 9, Page 13784-13797, June 2020,
- 5 Hamed Esmaeili, Hamed Adibi, S.Mehdi Rezaei, "Surface Quality, Efficiency and Process Optimization of Grinding Carbon Fiber-Reinforced Silicon Carbide Composite", Modares Mechanical Engineering, June 2020 Vol. 20, Num. 6, Page 1409-1421, June 2020,
- 6 Aliakbar Hadinezhad Roudi, Rasul Fesharakifard, S.Mehdi Rezaei, Ali Nahvi, "Virtual Manual Arc Welding by Real-Time Process Simulation for Effective Training", AUT Journal of Mechanical Engineering, May 2020 Vol. 5, Num. 2, Page 1-32, May 2020,
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- 9 Hamed Ghafarirad, S.Mehdi Rezaei, Mohammad Zareinejad, "Hysteretic Constitutive Equations Based Continuous Dynamic Modeling of Bending Piezoelectric Actuators", Modares Mechanical Engineering, May 2019 Vol. 19, Num. 5, Page 1229-1239, May 2019,
- 10 Akbar Solhtalab, Hamed Adibi, Amir Esmaeilzare, S.Mehdi Rezaei, "Cup wheel grinding-induced subsurface damage in optical glass BK7: An experimental, theoretical and numerical investigation", PRECISION ENGINEERING-JOURNAL OF THE INTERNATIONAL SOCIETIES FOR PRECISION ENGINEERING AND NANOTECHNOLOGY, April 2019 Vol. 57, Num. 0, Page 162-175, April 2019,
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- 80 S.Mehdi Rezaei, Mohsen Tayefeh, Mohsen Bahrami, "Dynamic Behavior Analysis of Compliant Micromechanisms " , International MEMS conference 2006, May 2006
- 81 S.Mehdi Rezaei, Mohsen Tayefeh, "Dynamic behavior analysis of compliant micromechanisms " , , May 2006
- 82 Abdolhamid Azizi, S.Mehdi Rezaei, Abdolreza Rahimi, Hamid Baseri, "Investigation and modeling of disc dressing and grinding wheels " , , December 2005
- 83 Hassan Basirat Tabrizi, S.Mehdi Rezaei, "Investigation of turbulent plane mixing layer using Generalized Differential Quadrature " , , May 2004

Taught Courses

#	Course title	Description	Headlines	Date
1	Hydraulic Sys. Lab.	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and Pneumatics Application		Fall 2021
2	Hydraulic System	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and actuators Application		Fall 2021
3	Hydraulic Sys. Lab.	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and Pneumatics Application		Fall 2021
4	Hydraulic Sys. Lab.	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and Pneumatics Application		Spring 2021

5	Hydraulic System Application	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and actuators		Spring 2021
6	Automation in Production	Mastering the terminology, design and implementation of the levels of automation. Decoding and scientific expression of industrial issues in the field of robotics and automation. Acquisition and promotion of individual and collective ability to carry		Spring 2021
7	Hydraulic Sys. Lab. Application	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and Pneumatics		Spring 2021
8	Hydraulic Sys. Lab. Application	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and Pneumatics		Spring 2021
9	Hydraulic System Application	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and actuators		Fall 2020
10	Hydraulic Sys. Lab. Application	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and Pneumatics		Fall 2020
11	Hydraulic Sys. Lab. Application	Introduction to fluid power elements (pumps, Directional Control Valves, Pressure Control Valve, Flow Control Valve and Pneumatics		Fall 2020

Inventions/Patents

#	Invention title	Reg. number	Country	contributors	Reg. date	Exp. date
1	Oil Tankage System High Efficiency Leakage Detection Using Leaf Method	95545			2018/04/1	2034/08/1
2	positioning system for pneumatic cylinders	002708 / الف 89			2014/08/1	2014/11/1