



## Saeed Tavakoli Afshari

### Professor

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## Education

- ✓ B.Sc, Electrical and Electronics Engineering, Ferdowsi University of Mashhad - 1991
- ✓ MS, electrical Engineering - control, Ferdowsi University of Mashhad - 1995
- ✓ PhD, electrical Engineering - control, University of Sheffield - 2005

## Courses

1. Electric Circuits II
2. Linear System and Control
3. Special topics in control time-domain control design
4. Technical English Language

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## Journals Papers

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### 2019

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#### 1. Kalman Filter-Smoothed Random Walk Based Centralized Controller for Multi-Input Multi-Output Processes

, Saeed Tavakoli Afshari, Jafar Sadeghi, Hamed Torabi

international journal of industrial electronics, control and optimization Volume: (2) 155 - 166

#### 2. Modeling of a magneto-rheological damper: An improved multi-state-dependent parameter estimation approach

Abbas Zamani, Saeed Tavakoli Afshari, Sadegh Etedali, Jafar Sadeghi

JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES Volume: (30) 1178 - 1188

#### 3. Reliability based optimal allocation of distributed generations in transmission systems under demand response program

Hadi Chahkandi Nejad, Saeed Tavakoli Afshari, Noradin Ghadimi, Saman Korjani, Sayyad Nojavan, Hamed

ELECTRIC POWER SYSTEMS RESEARCH Volume: (176) 1 - 10

### 2018

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#### 4. Robust adaptive sliding mode control design for uncertain stochastic systems with time-varying delay

Bahar Ahmadi, Hamid Nourisola, Saeed Tavakoli Afshari

International Journal of Dynamics and Control Volume: (6) 413 - 424

#### 5. PI controller tuning for load disturbance rejection using constrained optimization

Saeed Tavakoli Afshari, Jafar Sadeghi, Ian Griffin, Peter Fleming

International Journal of Dynamics and Control Volume: (6) 188 - 199

#### 6. A GBMO-based PID controller for vibration mitigation of seismic-excited structures

Sadegh Etedali, Abbas Zamani, Saeed Tavakoli Afshari

AUTOMATION IN CONSTRUCTION Volume: (87) 1 - 12

#### 7. Design and control of a multi-wing dissipative chaotic system

, Saeed Tavakoli Afshari

International Journal of Dynamics and Control Volume: (6) 140 - 153

#### 8. Smith predictor based fractional-order control design for time-delay integer-order systems

, Saeed Tavakoli Afshari

International Journal of Dynamics and Control Volume: (6) 179 - 187

### 9. Kalman filter-based centralized controller design for non-square multi-input multi-output processes

, Saeed Tavakoli Afshari, Jafar Sadeghi, Hamed Torabi

CHEMICAL ENGINEERING RESEARCH and DESIGN Volume: (132) 187 - 198

### 10. Adaptive fractional order fuzzy proportionalintegralderivative control of smart base-isolated structures equipped with magnetorheological dampers

Abbas Zamani, Saeed Tavakoli Afshari, , Jafar Sadeghi

JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES Volume: (29) 830 - 844

### 11. Tuning of robust fractional-order phase-lead compensators using pole placement and pole-zero ratio minimization

, Saeed Tavakoli Afshari

JOURNAL OF VIBRATION AND CONTROL Volume: (24) 5379 - 5390

### 12. Synchronization of Quadratic Chaotic Systems Based on Simultaneous Estimation of Nonlinear Dynamics

Amin Zarei, Saeed Tavakoli Afshari

Journal of Computational and Nonlinear Dynamics Volume: (13) 1-081001 - 7-081001

### 13. Online tuning of fractional order fuzzy PID controller in smart seismic isolated structures

Abbas Zamani, Saeed Tavakoli Afshari, Sadegh Etedali, Jafar Sadeghi

Bulletin of Earthquake Engineering Volume: (16) 3153 - 3170

### 14. Analytical PID control design in time domain with performance-robustness trade-off

Saeed Tavakoli Afshari,

ELECTRONICS LETTERS Volume: (54) 815 - 817

### 15. Two-Degree-of-Freedom Control Scheme for Robust Centralized PI/PID Controller Design Using Constrained Optimization

Afroomand, Saeed Tavakoli Afshari

international journal of industrial electronics, control and optimization Volume: (1) 1 - 8

## 2017

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### 16. Fractional order PID control design for semi-active control of smart base-isolated structures: a multi-objective cuckoo search approach

Abbas Zamani, Saeed Tavakoli Afshari,

ISA TRANSACTIONS Volume: (67) 222 - 232

### 17. Control of piezoelectric friction dampers in smart base-isolated structures using self-tuning and adaptive fuzzy PD controllers

Abbas Zamani, Saeed Tavakoli Afshari, Sadegh Etedal

JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES Volume: (28) 1287 - 1302

### 18. Analytical phase-lead controller design using pole placement a pole-zero ratio minimisation approach

Saeed Tavakoli Afshari,

ELECTRONICS LETTERS Volume: (53) 851 - 852

### 19. PD/PID controller design for seismic control of high-rise buildings using multi-objective optimization a comparative study with LQR controller

Sadegh Etedali, Saeed Tavakoli Afshari

Journal of Earthquake and Tsunami Volume: (11) 1-1750009 - 23-1750009

## 2016

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### 20. Hopf bifurcation analysis and ultimate bound estimation of a new 4-D quadratic autonomous hyper-chaotic system

, Saeed Tavakoli Afshari

APPLIED MATHEMATICS AND COMPUTATION Volume: (291) 323 - 339

### 21. On power tracking and alleviation by a new controller for fulfilment of the damping and performance requisites for a variable speed wind system An optimal approach

, Saeed Tavakoli Afshari, S. Masoud Barakati

INTERNATIONAL JOURNAL OF ELECTRICAL POWER and ENERGY SYSTEMS Volume: (75) 187 - 193

### 22. Design of a decoupled PID controller via MOCS for seismic control of smart structures

Sadegh Etedali?, Saeed Tavakoli Afshari, Mohammad Reza Sohrabi

Earthquakes and Structures Volume: (10) 1067 - 1087

## 2015

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### 23. Modeling minimum temperature using adaptive neuro-fuzzy inference system based on spectral analysis of climate indices A case study in Iran

Hojjatolah Daneshmand, Taghi Tavousi, Mahmood Khosravi, Saeed Tavakoli Afshari

journal of the saudi society of agricultural sciences Volume: (14) 33 - 40

### 24. Vector-Based Swarm Optimization Algorithm

Afroomand, Saeed Tavakoli Afshari

APPLIED SOFT COMPUTING Volume: ( ) 911 - 922

### 25. Modeling minimum temperature using adaptive neuro-fuzzy inference system based on spectral analysis of climate indices: A case study in Iran

Hojjat Allah Daneshmand, Taghi Tavousi, Mahmood Khosravi, Saeed Tavakoli Afshari

journal of the saudi society of agricultural sciences Volume: (14) 33 - 40

### 26. Delayed adaptive output feedback sliding mode control for offshore platforms subject to nonlinear wave-induced force

Hamid Nourisola, Bahar Ahmadi, Saeed Tavakoli Afshari

OCEAN ENGINEERING Volume: (104) 1 - 9

## 2014

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### 27. An intelligent global harmony search approach to continuous optimization problems

, Saeed Tavakoli Afshari, Shahram Mohanna

APPLIED MATHEMATICS AND COMPUTATION Volume: (232) 670 - 684

### 28. Supervised nuclear track detection of CR-39 detectors by cellular automata

Hadi Chahkandi Nejad, Omid Khayat, Kheirollah Mohammadi, Saeed Tavakoli Afshari

Radiation Effects and Defects in Solids Volume: (169) 478 - 484

## 2013

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### 29. An independent robust modal PID control approach for seismic control of building

, Mohammad Reza Sohrabi, Saeed Tavakoli Afshari

Journal of Civil Engineering and Urbanism Volume: (3) 279 - 291

### 30. Optimum indoor signal coverage of dense distributed receivers via ray tracing coupled with genetic algorithm

, Javad Ahmadi Shokouh, Saeed Tavakoli Afshari

International Journal of Information and Communication Technology Research (IJICT Volume: (5) 27 - 33

### 31. optimum coverage/capacity in MIMO indoor channel with minimum transmitters

, Javad Ahmadi Shokouh, Saeed Tavakoli Afshari

WIRELESS PERSONAL COMMUNICATIONS Volume: (71) 1989 - 2001

### 32. Wideband planar split ring resonator based metamaterials

Javad Ahmadi Shokouh, Saeed Tavakoli Afshari

Progress in Electromagnetics Research M Volume: (28) 115 - 128

### 33. Transmitter Antenna Placement in Indoor Environments Using Particle Swarm Optimisation

Saeed Tavakoli Afshari, Javad Ahmadi Shokouh

INTERNATIONAL JOURNAL OF ELECTRONICS Volume: (100) 999 - 1099

### 34. Optimal PD/PID Control of Smart Base Isolated Buildings Equipped With Piezoelectric Friction Dampers

, Mohammad Reza Sohrabi, Saeed Tavakoli Afshari

Earthquake Engineering and Engineering Vibration Volume: (12) 39 - 54

### 35. An Independent Robust Modal PID Control Approach for Seismic Control of Buildings

, Mohammad Reza Sohrabi, Saeed Tavakoli Afshari

Journal of Civil Engineering and Urbanism Volume: ( ) 279 - 291

### 36. Nondestructive position detection of a metallic target within soil substrate using electromagnetic tomography

Shahram Mohanna, , Saeed Tavakoli Afshari

RESEARCH IN NONDESTRUCTIVE EVALUATION Volume: (24) 177 - 190

### 37. A semi-automated hybrid algorithm for accurate detection and counting of chemically etched tracks

Hadi Chahkandi Nejad, SeyedMostafa Zargarchi, Majid Sohani, Omid Khayat, Saeed Tavakoli Afshari

Radiation Effects and Defects in Solids Volume: (168) 988 - 1003

### 38. Dual-band planar monopole antenna loaded with rotated inner ring of SRRs

Abdolshakoor Tamandani, , Javad Ahmadi Shokouh, Saeed Tavakoli Afshari

international research journal of applied and basic sciences Volume: (4) 1791 - 1796

## 2012

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### 39. Reducing Mutual Coupling in Microstrip Array Antenna Using Metamaterial Spiral Resonator

, Mohammad Ali Mansouri Birjandi, Saeed Tavakoli Afshari

International Journal of Computer Science Issues Volume: (9) 51 - 56

### 40. Optimality of Transmitter Location in Wireless Network with RAKE Receivers

Javad Ahmadi Shokouh, Saeed Tavakoli Afshari

IET Communications Volume: (6) 3059 - 3064

### 41. Optimality of transmitter location in a wireless network with RAKE receivers

, Javad Ahmadi Shokouh, Saeed Tavakoli Afshari

IET Communications Volume: (6) 3059 - 3064

## 2010

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### 42. Microstrip Low-pass Elliptic Filter Disighn Based on Implicit Space Mapping Optimization

Saeed Tavakoli Afshari, , Shahram Mohanna

International Journal of Communications Network and System Sciences Volume: (3) 462 - 465

#### 43. Mutual Coupling Reduction in two-dimensional Array of Microstrip Antennas using Concave Rectangular Patches

Shahram Mohanna, , Saeed Tavakoli Afshari

Journal of Telecommunications Volume: (2) 64 - 69

#### 44. Modelling and Design of Microwave Structures Using Neural Networks and Particle Swarm Optimization

, Saeed Tavakoli Afshari, Amir Banookh

Journal of Telecommunications Volume: (3) 22 - 25

#### 45. Robots PI Control Design Using Particle Swarm Optimization

Saeed Tavakoli Afshari, Amir Banookh

Journal of Computer Science and Engineering Volume: (1) 36 - 41

#### 46. Modelling and Design of a Microstrip band-pass Filter Using Space Mapping Techniques

Saeed Tavakoli Afshari, , Shahram Mohanna

Journal of Telecommunications Volume: (2) 29 - 34

#### 47. Design of a Coupled-Line Filter an Implicit space Mapping Approach With Extra Mapping

Saeed Tavakoli Afshari, , Shahram Mohanna

International Journal of Microwave and Optical Technology Volume: (5) 130 - 133

#### 48. reduction of mutual coupling and return loss in microstrip array antennas using concave rectangular patches

Shahram Mohanna, , Saeed Tavakoli Afshari,

international journal of microwave science and technology Volume: (2010) 1 - 5

#### 49. modelling and design of microwave devices using space mapping optimization technique

Saeed Tavakoli Afshari, , Shahram Mohanna

Canadian Journal on Electrical and Electronics Engineering Volume: (1) 116 - 120

## 2009

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#### 50. Detection Identification and Tracking of Flying Objects in Three Dimensions Using Multistatic Radars

, Shahram Mohanna, Saeed Tavakoli Afshari

International Journal of Communications Network and System Sciences Volume: (2) 486 - 490

## 2008

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#### 51. A HIGH GAIN DUAL STACKED APERTURE COUPLED MICROSTRIP ANTENNA FOR WIDEBAND APPLICATIONS

, Jalil Rashed-Mohassel, Mohammad Hassan Neshati, Saeed Tavakoli Afshari, Masoud Ghassemi  
Progress in Electromagnetics Research-PIER Volume: (9) 127 - 135

## 2007

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### [52. Robust PI Control Design A Genetic Algorithm Approach](#)

Saeed Tavakoli Afshari, Ian Griffin, Peter Fleming

International Journal of Soft Computing Volume: (2) 401 - 407

## 2006

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### [53. Tuning of Decentralised PI \(PID\) Controllers for TITO Processes](#)

Saeed Tavakoli Afshari, Ian Griffin, Peter J. Fleming

CONTROL ENGINEERING PRACTICE Volume: (14) 1069 - 1080

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## Conferences Papers

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2021

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1. [Finite-Time Fuzzy Control Design for Drug Dosage Delivery in Cancer Treatment](#)

The 7th International Conference on Control, Instrumentation, and Automation (ICCIA2020)

Ehsan Sadeghi Ghasemabad, Iman Zamani, Zahra Gorkani Zarandi, Saeed Tavakoli Afshari

2020

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2. [Improved PID tuning rules using fractional calculus](#)

Iranian Conference on Electrical Engineering

, Saeed Tavakoli Afshari

2017

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3. [Use of nonlinear slip mode controller in photovoltaic system with the aim of improving production voltage regulation](#)

Alaa Mohammadi, S. Masoud Barakati, Saeed Tavakoli Afshari

2016

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4. [Short-term forecast of Mashhad and Baluchestan by the support of a backup machine with a Nu fix](#)

Second National Conference on Technology, Energy and Data with the Approach of Electrical and Computer Engineering

Adnan Omid, Saeed Tavakoli Afshari, S. Masoud Barakati

2011

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5. [A Fuzzy Bit Allocation Algorithm for Variable Bit Rate Video Coding](#)

The 7th Iranian Machine Vision and Image Processing Conference

, Mehdi Rezaei, Saeed Tavakoli Afshari, Farahnaz Mohanna

2010

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6. [A Fuzzy Video Rate Controller for Variable Bit Rate Applications Using ANFIS](#)

1st International Conference on Communications Engineering

, Mehdi Rezaei, Saeed Tavakoli Afshari, Farahnaz Mohanna

2009

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7. [Enhancement of Genetic Algorithm and Ant Colony Optimization Techniques using Fuzzy Systems](#)

2009 IEE International

, Saeed Tavakoli Afshari,

### 8. A direct synthesis approach to the PI tuning problem with application to a distillation column

The 6th International Chemical Engineering Congress Exhibition

Saeed Tavakoli Afshari,

### 9. Dual Composition Control of a Distillation Column Using Proportional-Integral-Plus (PIP) Control

The 6th International Chemical Engineering Congress Exhibition

, Saeed Tavakoli Afshari

## 2007

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### 10. The Effectiveness of Control Plan on Reducing Humanoid Gait Energy

, , Saeed Tavakoli Afshari

## 2006

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### 11. Optimal PID Tuning for Second Order plus Dead Time Processes

Saeed Tavakoli Afshari, Ian Griffin, peter Fleming