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University of Sistan and Baluchestan, Daneshgah Ave., Zahedan,
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Education

- ✓ B.Sc, Chemical Engineering, Isfahan University of Technology - 1991
- ✓ MS, Chemical Engineering, Sharif University of Technology - 1995
- ✓ PhD, Process Modelling, Simulation and Control, Lancaster University - 2007

Courses

1. Workshop on engineering softwares
2. Processes control
3. Chemical processes control
4. Digital Control
5. Petrochemical processes
6. Optimized and advanced control
7. Optimized and advanced control
8. Engineering Economy
9. Measurement errors in materials research
10. engineering design economics
11. System Identification
12. modelling and simulation of chemical processes
13. Digital Control
14. Computer Aided Design and Simulation in Gas Industry

Master Thesis

1. dynamic data reconciliation filter design based on general additive model in non minimal state space

بهر روز کیانی طلائی, [Farhad Shahraki, Jafar Sadeghi, Mir mohammad Khalilipour langroudi, Bahareh Bidar, Mortaza Zivdar, , Mohamad Javad Azinfar]

نیمسال دوم سال تحصیلی 99-00

Journals Papers

2025

1. Energy-Efficient Optimal Control of Crude Distillation Columns Using Proportional-Integral-Plus (PI-P) Framework: A Simulation-Based Approach

Mir mohammad Khalilipour langroudi, Farhad Shahraki, Jafar Sadeghi, Kiyanoosh Razzaghi

international journal of industrial electronics, control and optimization Volume: (8) 177 - 189

2024

2. Enhancing Soft Sensor Performance in Control Loops: Integrating State-Dependent Parameter Method With Regression-Based Dynamic Data Reconciliation Filter

Behrooz Kiani talaei, Farhad Shahraki, Jafar Sadeghi, Mir mohammad Khalilipour langroudi

IEEE SENSORS JOURNAL Volume: (24) 7018 - 7029

3. Design of Data-Driven Soft Sensor for Quality Prediction in Industrial Polyester Resin Production Process

Gohar Hadizadeh, Jafar Sadeghi, Mir mohammad Khalilipour langroudi, Bahareh Bidar

Volume: (6) 97 - 114

4. Using Response Surface Methodology Approach to Modeling and Optimization of the Combustion Process in Cement Kiln

Somayeh Mansouri, Farhad Shahraki, Jafar Sadeghi, Mohammad Reza Sardashti Birjandi, Esmail Koohesta

CHEMICAL ENGINEERING and TECHNOLOGY Volume: (47) 875 - 886

5. Experimental investigation of energy consumption and CO₂ emission in cement kiln in effect of replacement natural pozzolan

Farhad Shahraki, Somayeh Mansouri, Jafar Sadeghi, Esmail Koohestanian, Mohammad Reza Sardashti Birj

IRANIAN JOURNAL OF CHEMISTRY and CHEMICAL ENGINEERING-INTERNATIONAL ENGLISH EDITION
Volume: (43) 382 - 394

6. Enhanced Monitoring of Water Quality in Crude Oil Desalting/Dehydration Plant (DDP) using Soft Sensing Techniques

Farzane Naimirad, Mir mohammad Khalilipour langroudi, Bahareh Bidar, Farhad Shahraki, Jafar Sadeghi

Pollution Volume: (11) 175 - 190

2023

7. Using of saltwater to increase the output power of a steam injected gas turbine (STIG) by connecting spray freezing desalination to it

, Jafar Sadeghi, Farhad Shahraki

Energy Conversion and Management-X Volume: (18) 100378-1 - 100378-12

8. Optimal metaheuristic state-dependent parameter proportional-integral-plus control: Alternative to gain-scheduled controller for control of a nonlinear continuous stirred tank reactor

Behrooz Kiani talaee, Farhad Shahraki, Jafar Sadeghi, Mir mohammad Khalilipour langroudi

Systems and Soft Computing Volume: (5) 200053-1 - 200053-10

9. Conceptual design of an innovative flexible and controllable Solar ORC cogeneration system for operating in remote areas

Mahdi Rahmdel, Amin Behzadmehr, Jafar Sadeghi, Hamed Farzaneh, Faramarz Sarhaddi

SOLAR ENERGY Volume: (262) 111899-1 - 111899-14

10. Use of high salinity water in a power plant by connecting a direct contact membrane distillation (DCMD) to a steam-injected gas turbine (STIG)

, Jafar Sadeghi, Farhad Shahraki, Abdolreza Samimi

Heliyon Volume: (9) e21335-1 - e21335-16

11. SDP-Based Quality Monitoring with Application to the Tennessee Eastman Process (TEP)

, Mir mohammad Khalilipour langroudi, Jafar Sadeghi, Bahareh Bidar

JOURNAL OF CONTROL Volume: (17) 77 - 91

12. Tail Gas Quality Warning System in a Sulfur Recovery Unit based on H₂S and SO₂ Concentration Soft Sensor utilizing Multi-State-Dependent Modeling Method

Fereshte Tavakoli dastjerd, Farhad Shahraki, Jafar Sadeghi, Mir mohammad Khalilipour langroudi, Baha

international journal of industrial electronics, control and optimization Volume: (6) 307 - 319

2022

13. Soft Sensor Design Using Multi-State Dependent Parameter Methodology Based on Generalized Random Walk Method

Fereshte Tavakoli dastjerd, Jafar Sadeghi, Farhad Shahraki, Mir mohammad Khalilipour langroudi, Baha

IEEE SENSORS JOURNAL Volume: (22) 7888 - 7901

14. Stable and Dynamic Simulation of Gas Sweetening Unit by Alternative Solvent

Zahra Zandi lak, Mohammad Reza Sardashti Birjandi, Farhad Shahraki, Jafar Sadeghi

Volume: (14) 57 - 73

15. Dynamic Simulation and Investigation of Changes in Operating Parameters on the Amount of Sulfur Produced in the SRU Unit - a Case Study of the No 1 Refinery of South Pars Gas Complex

Alireza Shahsavari, Alireza Binaee, Mohammad Reza Sardashti Birjandi, Farhad Shahraki, Jafar Sadeghi

Volume: (9) 57 - 75

16. بهینه سازی پویای راکتورهای هیدروژناسیون استیلن با در نظر گرفتن کاهش فعالیت کاتالیست

, Farhad Shahraki, Jafar Sadeghi, mehdi bayat

Volume: (20) 72 - 80

17. Connection a vapor jet refrigeration system to a steam injected gas turbine

, Jafar Sadeghi, Farhad Shahraki, Abdolreza Samimi

ENERGY Volume: (261) 125246 -

18. Experiences of a Group of Faculty Members in University of Sistan and Baluchestan on Decreased Fraud Solutions for E-Tests

Mehri Mehrjoo, Mehrdad Mazaheri Dasht Arjandi, Mehri Rajaei, Hadi Esmaeeli Darmian, Farhad Shahraki,

Iranian Distance Education Journal Volume: (4) 9 - 20

19. Plantwide Control Structure of the Diethyl Oxalate Process Concerning: Safety and Process Improvement

Hassan Bagheri, Mir mohammad Khalilipour langroudi, Jafar Sadeghi

Iranian Journal of Chemical Engineering Volume: (19) 52 - 75

2021

20. A fractional order model for electrochemical impedance of IPMC actuators based on constant phase element

, Hossein Moeinkhah, Jafar Sadeghi

JOURNAL OF INTELLIGENT MATERIAL SYSTEMS AND STRUCTURES Volume: (32) 880 - 888

21. New Process Flowsheet for CO₂ Compression and Purification Unit; Dynamic Investigation and Control

, Jafar Sadeghi, Davod Mohebbi Kalhori, Farhad Shahraki, Abdolreza Samimi

IRANIAN JOURNAL OF CHEMISTRY and CHEMICAL ENGINEERING-INTERNATIONAL ENGLISH EDITION
Volume: (40) 593 - 604

22. Soft Sensor Development for Monitoring ASTM-D86 Index: Effect of Feed Flow Rate Change

Bahareh Bidar, Mir mohammad Khalilipour langroudi, Farhad Shahraki, Jafar Sadeghi

international journal of industrial electronics, control and optimization Volume: (4) 211 - 220

23. Investigating the effect of operating parameters on the performance of acetylene hydrogenation reactors

, Farhad Shahraki, Jafar Sadeghi, Mehdi Bayat

Volume: (5) 91 - 104

24. Multivariable Control Crude Oil Distillation Column and Optimization Energy Consumption

Behnaz Moradi, Farhad Shahraki, Mir mohammad Khalilipour langroudi, Jafar Sadeghi

Volume: (16) 34 - 51

[25. Soft sensor model for monitoring and online control based on a dynamic model and local instrumental variable technique](#)

, Jafar Sadeghi, Farhad Shahraki

International Journal of Modelling, Identification and Control Volume: (39) 192 - 203

2020

[26. A New control structure for tert-amyl methyl ether production using reactive distillation](#)

Shahin Kharaji, Jafar Sadeghi, Farhad Shahraki, Mir mohammad Khalilipour langroudi

ISA TRANSACTIONS Volume: (97) 53 - 66

[27. Optimization of time-variable-parameter model for data-based soft sensor of industrial debutanizer](#)

, Jafar Sadeghi, Farhad Shahraki

OPTIMAL CONTROL APPLICATIONS and METHODS Volume: (41) 381 - 394

[28. Enhancement of CO₂ mass transfer using SiO₂ nanoparticles in an aqueous a-MDEA solution for CO₂ absorption process](#)

, Jafar Sadeghi, Farhad Shahraki, Davod Mohebbi Kalhori

Transport Phenomena in Nano and Micro Scales Volume: (8) 117 - 125

[29. The Multivariable Control of Carbon Dioxide Absorption System using the Proportional Integral Plus \(PIP\) Controller](#)

, Jafar Sadeghi

Journal of Chemical and Petroleum Engineering Volume: (54) 187 - 204

2019

[30. 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

[31. 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

2018

[32. Soft Sensor Modeling Based on Multi-State-Dependent Parameter Models and Application for Quality Monitoring in Industrial Sulfur Recovery Process](#)

Bahareh Bidar, Farhad Shahraki, Jafar Sadeghi, Mir mohammad Khalilipour langroudi

IEEE SENSORS JOURNAL Volume: (18) 4583 - 4591

33. A novel process for CO₂ capture from the flue gases to produce urea and ammonia

, Jafar Sadeghi, Davod Mohebbi Kalhori, Farhad Shahraki, Abdolreza Samimi

ENERGY Volume: (144) 279 - 285

34. A data-driven soft-sensor for monitoring ASTM-D86 of CDU side products using local instrumental variable (LIV) technique

Bahareh Bidar, Mir mohammad Khalilipour langroudi, Farhad Shahraki, Jafar Sadeghi

Journal of the Taiwan Institute of Chemical Engineers Volume: (84) 49 - 59

35. 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

36. 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

37. 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

38. Multivariable adaptive neural network predictive control in the presence of measurement time-delay application in control of Vinyl Acetate monomer process

, Farhad Shahraki, Jafar Sadeghi,

JOURNAL OF PROCESS CONTROL Volume: (66) 39 - 50

39. Online Monitoring for Industrial Processes Quality Control Using Time Varying Parameter Model

, Farhad Shahraki, Jafar Sadeghi

International Journal of Engineering Volume: (31) 524 - 532

40. Control Structure Design and Dynamic Modeling for Atmospheric Distillation Column Effect of Increase Capacity

Mir mohammad Khalilipour langroudi, Farhad Shahraki, Jafar Sadeghi, Kiyanoosh Razzaghi

international journal of industrial electronics, control and optimization Volume: (2) 103 - 113

41. The Simulation and Control of Ammonia Unit of Shiraz Petrochemical Complex, Iran

, Jafar Sadeghi

Journal of Chemical and Petroleum Engineering Volume: (52) 107 - 123

42. 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

2017

43. Sensitivity analysis and multi-objective optimization of CO₂CPU process using response surface methodology

, Abdolreza Samimi, Davod Mohebbi Kalhori, Jafar Sadeghi

ENERGY Volume: (122) 570 - 578

44. Data-driven soft sensor approach for online quality prediction using state dependent parameter models

Bahareh Bidar, Jafar Sadeghi, Farhad Shahraki, Mir mohammad Khalilipour langroudi

CHEMOMETRICS AND INTELLIGENT LABORATORY SYSTEMS Volume: (162) 130 - 141

2016

45. Design of multivariable control structure for crude oil distillation column effect of capacity change

, Jafar Sadeghi, Farhad Shahraki,

Volume: (8) 1 - 12

46. A Novel Approach for Prediction of Industrial Catalyst Deactivation Using Soft Sensor Modeling

, Jafar Sadeghi

Catalysts Volume: (6) 1 - 17

47. Nonsquare multivariable non-minimal state space-proportional integral plus (NMSS-PIP) control for atmospheric crude oil distillation column

Mir Mohammad Khalilipour Langerudi, Jafar Sadeghi, Farhad Shahraki, Kiyanoosh Razzaghi

CHEMICAL ENGINEERING RESEARCH and DESIGN Volume: (113) 140 - 150

48. Design of multivariable control structure for crude oil distillation column effect of capacity change

Mir mohammad Khalilipour langroudi, Jafar Sadeghi, Farhad Shahraki, Kiyanoosh Razzaghi

Volume: (8) 1 - 12

2014

49. regulating and helix path tracking for unmanned aerial vehicle (UAV) using fuzzy logic controllers

Jafar Sadeghi, Said Farahat

the journal of mathematics and computer science Volume: (13) 71 - 89

2013

50. Analysis of heat transfer in oscillating flow through a channel filled with metal foam using computational fluid dynamics

, Davod Mohebbi Kalhori, Jafar Sadeghi

INTERNATIONAL JOURNAL OF THERMAL SCIENCES Volume: (66) 42 - 50

2012

51. The Study of Methanol Separation Columns Control

Jafar Sadeghi,

Oriental Journal of Chemistry Volume: (28) 229 - 235

2011

52. steady-state and dynamic simulation and control of crude oil distillation unit results investigation in real processes

, Jafar Sadeghi, Farhad Shahraki

PETROLEUM CHEMISTRY Volume: (53) 167 - 179

53. Dynamic Simulation of Distillation Sequences in Dew Pointing Unit of South Pars Gas Refinery

, Jafar Sadeghi

Journal of Chemical and Petroleum Eng "JCHPE" Volume: (45) 109 - 116

2010

54. Multi-state dependent parameter model identification and estimation for nonlinear dynamic systems

Jafar Sadeghi

ELECTRONICS LETTERS Volume: (46) 1265 -

55. Multi-state dependent parameter model identification and estimation for nonlinear dynamic systems

Jafar Sadeghi, , ,

ELECTRONICS LETTERS Volume: (46) 1265 - 1266

2009

56. comment on dynamic and control of fluidized catalytic crackers.1.modeling of the current generation FCC S

Jafar Sadeghi, Abdolreza Samimi

INDUSTRIAL and ENGINEERING CHEMISTRY RESEARCH Volume: () -

Conferences Papers

2023

1. Soft Sensor Design of A Carbon Dioxide Absorption Unit Based on State-Dependent Parameter Model

4th International Conference New Technologies in Oil, Gas and Petrochemical Industries

Fereshte Tavakoli dastjerd, Jafar Sadeghi, Farhad Shahraki, Mir mohammad Khalilipour langroudi, Bahareh Bidar

2021

2. USE OF SALINE WATER FOR INCREASE THE TURBINE OUTPUT POWER BY CONNECTION OF DIRECT CONTACT MEMBRANE DISTILLATION (DCMD) UNIT TO A STEAM INJECTED GAS TURBINE (SIGT)

3rd international Congress on Water Desalination

, Jafar Sadeghi, Farhad Shahraki, Abdolreza Samimi

3. A Data-driven Soft Sensor for Estimation Viscosity in Batch Process Production of Polyester Resin

Gohar Hadizadeh, Jafar Sadeghi, Mir mohammad Khalilipour langroudi, Bahareh Bidar

2020

4. Quality Soft Sensor Design for Crude Oil Desalting/Dehydration Unit Using Local Instrumental Variable (LIV) Approach

The 11th International Chemical Engineering Congress Exhibition (IChEC 2020)

Bahareh Bidar, Farzane Naimirad, Mir mohammad Khalilipour langroudi, Farhad Shahraki, Jafar Sadeghi

2019

5. Data-driven soft sensor design for prediction of quality in the Tennessee Eastman process

2nd national conference on gas and petrochemical processes

2018

6. A data-driven soft sensing approach for quality prediction in sulfur recovery unit using state dependent parameter models

The 10th International Chemical Engineering Congress Exhibition (IChEC 2018)

2017

7. Soft sensor design for continuous product quality prediction in debutanizer column

1st GPP national conference on gas and petrochemical process

, Farhad Shahraki, Jafar Sadeghi, Mir mohammad Khalilipour langroudi

8. Non-Square Control Structure Selection for Crude Distillation Column Using Relative Gain Array Effect of Uncertain Feed Conditions

10th World Congress of Chemical Engineering

2016

9. Backlash modeling and controller design for mechanical systems

1st International Conference on Mechanical and Aerospace Engineering

, Saeed Tavakoli Afshari, Jafar Sadeghi

2010

10. dynamic analysis of distillation column sequences using aspen dynamic and matlab software

1st international regional chemical and petroleum engineering conference

, Jafar Sadeghi, Farhad Shahraki

Executive activities

عضو هیئت تحریریه مجله chemical process design

from 1400/11/11 - now

دانشکده فنی شهید باهنر

from 1393/07/01 - to 1399/04/22