

Prof. Müjde Güzelkaya

Personal Information

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Education Information

Doctorate, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektrik Mühendisliği Bölümü, Turkey 1985 - 1990

Under Graduate, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik Ve Haberleşme Mühendisliği Bölümü, Turkey 1978 - 1982

Foreign Languages

English

Dissertations

Doctorate, Çok girişli sistemlerde sınırlandırılmalı sonlu zaman kontrolü, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektrik Mühendisliği Bölümü, 1990

Research Areas

Technical Sciences, Information Systems, Communication and Control Engineering, Control and System Engineering, Mathematical Techniques, Optimal Control

Academic Titles / Tasks

Professor, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, 2003 - Continues

Associate Professor, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, 1996 - 2003

Assistant Professor, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, 1990 - 1996

Research Assistant, İstanbul Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Kontrol Ve Otomasyon Mühendisliği Bölümü, 1983 - 1990

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

I. Fusion of inverse optimal and model predictive control strategies

Ulusoy L., Güzelkaya M., Eksin İ.

TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, 2019 (Journal Indexed in SCI)

II. Design of an integer order proportional-integral/proportional-integral-derivative controller based on model parameters of a certain class of fractional order systems

Yumuk E., Güzelkaya M., Eksin İ.

PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART I-JOURNAL OF SYSTEMS AND CONTROL ENGINEERING, vol.233, pp.320-334, 2019 (Journal Indexed in SCI)

- III. **Analytical fractional PID controller design based on Bode's ideal transfer function plus time delay**
Yumuk E., Güzelkaya M., Eksin İ.
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- IV. **Inverse optimal controller based on extended Kalman filter for discrete-time nonlinear systems**
Almobaied M., Eksin İ., Güzelkaya M.
OPTIMAL CONTROL APPLICATIONS & METHODS, vol.39, pp.19-34, 2018 (Journal Indexed in SCI)
- V. **An inverse controller design method for interval type-2 fuzzy models**
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SOFT COMPUTING, vol.21, pp.2665-2686, 2017 (Journal Indexed in SCI)
- VI. **General derivation and analysis for input-output relations in interval type-2 fuzzy logic systems**
Aliasghary M., EKSİN İ., Güzelkaya M., KUMBASAR T.
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- VII. **Improved cascade controller design methodology based on outer-loop decomposition**
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- VIII. **An active fault tolerant control method based on support vector machines**
Ortac-Kabaoglu R., EKSİN İ., YESİL E., Güzelkaya M.
JOURNAL OF INTELLIGENT & FUZZY SYSTEMS, vol.29, pp.1761-1768, 2015 (Journal Indexed in SCI)
- IX. **Exact analytical inversion of TSK fuzzy systems with singleton and linear consequents**
Ulu C., Güzelkaya M., EKSİN İ.
INTERNATIONAL JOURNAL OF APPROXIMATE REASONING, vol.55, pp.1357-1368, 2014 (Journal Indexed in SCI)
- X. **A closed form type reduction method for piecewise linear interval type-2 fuzzy sets**
Ulu C., Güzelkaya M., EKSİN İ.
INTERNATIONAL JOURNAL OF APPROXIMATE REASONING, vol.54, pp.1421-1433, 2013 (Journal Indexed in SCI)
- XI. **Granular type-2 membership functions: A new approach to formation of footprint of uncertainty in type-2 fuzzy sets**
Ulu C., Güzelkaya M., EKSİN İ.
APPLIED SOFT COMPUTING, vol.13, pp.3713-3728, 2013 (Journal Indexed in SCI)
- XII. **Exact inversion of decomposable interval type-2 fuzzy logic systems**
Kumbasar T., EKSİN İ., Güzelkaya M., YESİL E.
INTERNATIONAL JOURNAL OF APPROXIMATE REASONING, vol.54, pp.253-272, 2013 (Journal Indexed in SCI)
- XIII. **Online tuning of fuzzy PID controllers via rule weighing based on normalized acceleration**
Karasakal O., Güzelkaya M., EKSİN İ., YESİL E., KUMBASAR T.
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- XIV. **Type-2 fuzzy model based controller design for neutralization processes**
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- XV. **Adaptive fuzzy model based inverse controller design using BB-BC optimization algorithm**
Kumbasar T., EKSİN İ., Güzelkaya M., YESİL E.
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, pp.12356-12364, 2011 (Journal Indexed in SCI)
- XVI. **Interval type-2 fuzzy inverse controller design in nonlinear IMC structure**
Kumbasar T., EKSİN İ., Güzelkaya M., YESİL E.
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, vol.24, pp.996-1005, 2011 (Journal Indexed in SCI)
- XVII. **An error-based on-line rule weight adjustment method for fuzzy PID controllers**
Karasakal O., Güzelkaya M., EKSİN İ., YESİL E.
EXPERT SYSTEMS WITH APPLICATIONS, vol.38, pp.10124-10132, 2011 (Journal Indexed in SCI)
- XVIII. **A rule base modification scheme in fuzzy controllers for time-delay systems**

- Genc H. M. , YESIL E., EKSIN I., Güzelkaya M., TEKIN O. A.
EXPERT SYSTEMS WITH APPLICATIONS, vol.36, pp.8476-8486, 2009 (Journal Indexed in SCI)
- XIX. **Linear time-varying sliding surface design based on co-ordinate transformation for high-order systems**
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TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL, vol.31, pp.51-70, 2009 (Journal Indexed in SCI)
- XX. **Big Bang Big Crunch Optimization Method Based Fuzzy Model Inversion**
KUMBASAR T., GÜZELKAYA M.
Lecture Notes in Computer Science, pp.732-740, 2008 (Journal Indexed in SCI)
- XXI. **Sliding mode control of high order systems using a constant nonlinear sliding surface on a transformed coordinate axis**
Tokat S., Eksin İ., Güzelkaya M.
JOURNAL OF VIBRATION AND CONTROL, vol.14, pp.909-927, 2008 (Journal Indexed in SCI)
- XXII. **Set-point regulator with blending mechanism**
Yesil E., Güzelkaya M., EKSIN İ., TEKIN O. A.
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- XXIII. **Online tuning of set point regulator with a blending mechanism using PI controller**
YEŞİL E., Güzelkaya M., EKSİN İ., TEKİN Ö. A.
Turkish Journal of Electrical Engineering and Computer Sciences, Elektrik, vol.16, pp.143-157, 2008 (Journal Indexed in SCI Expanded)
- XXIV. **Cross-coupled ratio control structure**
Yesil E., Guzelkaya M., EKSIN I., TEKIN O. A.
INSTRUMENTATION SCIENCE & TECHNOLOGY, vol.35, pp.523-536, 2007 (Journal Indexed in SCI)
- XXV. **Implementation of a New Self Tuning Fuzzy PIDController on PLC**
KARASAKAL O., YEŞİL E., GÜZELKAYA M., Eksin İ.
Turkish Journal of Electrical engineering, vol.13, pp.277-286, 2005 (Journal Indexed in SCI Expanded)
- XXVI. **Self tuning fuzzy PID type load and frequency controller**
Yesil E., Guzelkaya M., Eksin I.
ENERGY CONVERSION AND MANAGEMENT, vol.45, pp.377-390, 2004 (Journal Indexed in SCI)
- XXVII. **Self-tuning of PID-type fuzzy logic controller coefficients via relative rate observer**
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- XXVIII. **Design of a sliding mode controller with a nonlinear time-varying sliding surface**
Tokat S., Eksin I., GUZELKAYA M., Soylemez M. T.
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- XXX. **A new methodology for deriving the rule-base of a fuzzy logic controller with a new internal structure**
Eksin I., Guzelkaya M., GURLEYEN F.
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- XXXI. **A new methodology for designing a fuzzy logic controller and PI PD blending mechanism**
Güzelkaya M., EKSİN İ., GÜRLEYEN F.
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- XXXII. **Decoupling in singular systems A polynomial equation approach**
GÖREN A. L. , Güzelkaya M.
KYBERNETIKA, vol.32, pp.185-198, 1996 (Journal Indexed in SCI Expanded)

Articles Published in Other Journals

- I. **A Design Methodology and Analysis for Interval Type 2 Fuzzy PI PD Controllers**
MORTAZA A., EKSİN İ., GÜZELKAYA M., KUMBASAR T.
International Journal Of Innovative Computing Information And Control, vol.10, pp.4215-4230, 2013 (Refereed Journals of Other Institutions)
- II. **Type-2 fuzzy model inverse controller design based on BB-BC optimization method**
Kumbasar T., Eksin İ., Güzelkaya M., Yesil E.
IFAC Proceedings Volumes (IFAC-PapersOnline), vol.44, pp.5308-5313, 2011 (Refereed Journals of Other Institutions)

Supported Projects

Güzelkaya M., Project Supported by Higher Education Institutions, Lineer Ardıllara Sahip Takagi Sugeno Kang Bulanık Sistemlerin Birebir Tersinin Alınması, 2013 - 2018
Güzelkaya M., Project Supported by Higher Education Institutions, ENVANTÖR KONTROL SİSTEMLERİNDE ORAN KONTROL PROBLEMİ, 2009 - 2018

Citations

Total Citations (WOS):633
h-index (WOS):13