

Prof. Recep BURKAN

Personal Information

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Education Information

Doctorate, Erciyes University, Fen Bilimleri Enstitüsü, Makina Anabilim Dalı, Turkey 1996 - 2002

Postgraduate, Erciyes University, Fen Bilimleri Enstitüsü, Makina Anabilim Dalı, Turkey 1993 - 1996

Undergraduate, Middle East Technical University, Faculty Of Engineering, Department Of Mechanical Engineering, Turkey 1982 - 1988

Dissertations

Doctorate, Robot Manipulator Kontrolünde Parametre Belirsizliklerine Yönelik Kontrol Yaklaşımları, Erciyes University, Fen Bilimleri Enstitüsü, Makina Mühendisliği, 2002

Postgraduate, Otomatik Dikiş Kaynağı Tablasının Tasarımı, Erciyes University, Fen Bilimleri Enstitüsü, Makina Mühendisliği, 1996

Research Areas

Mechanical Engineering, Machine Theory and Dynamics, Machine Dynamics, System Dynamics and Control, Mechanisms, Robotics, Engineering and Technology

Academic Titles / Tasks

Professor, Istanbul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2012 - Continues

Associate Professor, Istanbul University, Mühendislik Fakültesi, Makina Mühendisliği Bölümü, 2008 - 2012

Associate Professor, Erciyes University, Kayseri Meslek Yüksekokulu, Makina, 2006 - 2008

Assistant Professor, Erciyes University, Kayseri Meslek Yüksekokulu, Makina, 2003 - 2006

Lecturer, Erciyes University, Kayseri Meslek Yüksekokulu, Makina, 1992 - 2003

Courses

Sistem Dinamiği ve Kontrol, Undergraduate, 2016 - 2017, 2013 - 2014

Robotların Modellenmesi ve Kontrolü, Doctorate, 2016 - 2017

İleri Mekanik Titreşimler, Doctorate, 2016 - 2017

İleri Dinamik, Postgraduate, 2016 - 2017

makina dinamiği ve Mekanizma Tekniği, Undergraduate, 2016 - 2017, 2014 - 2015, 2013 - 2014

ROBOTLARIN MODELLENMESİ VE KONTROLÜ, Doctorate, 2015 - 2016
SİSTEM DİNAMİĞİ VE KONTROL, Undergraduate, 2015 - 2016
Robot Mekaniği, Postgraduate, 2016 - 2017, 2013 - 2014
İLERİ MEKANİK TİTREŞİMLER, Doctorate, 2015 - 2016
İleri Mekanik Titreşimler, Doctorate, 2014 - 2015, 2013 - 2014
Robotların Modellenmesi ve Kontrolü, Doctorate, 2014 - 2015, 2013 - 2014
ROBOT MEKANİĞİ, Postgraduate, 2015 - 2016
İLERİ DİNAMİK, Postgraduate, 2015 - 2016
MAKİNA DİNAMİĞİ VE MEKANİZMA TEKNİĞİ, Undergraduate, 2015 - 2016
İleri Dinamik, Postgraduate, 2014 - 2015
Robotların Modellenmesi ve Kontrolü, Doctorate, 2012 - 2013
İleri Mekanik Titreşimler, Doctorate, 2012 - 2013
Sistem Dinamiği ve Kontrol, Undergraduate, 2012 - 2013
Robot Mekaniği, Postgraduate, 2012 - 2013
Makina Dinamiği ve Mekanizma Tekniği, Undergraduate, 2012 - 2013

Advising Theses

BURKAN R., Taşıtlarda Devrilme Hareketi Kontrolü, Doctorate, M.Türkkan(Student), 2016
BURKAN R., Taşıt Süspansiyon Sistemlerin Uyarlamalı Kontrolü, Postgraduate, C.Özbek(Student), 2013
BURKAN R., Model Parametreleri Bilinmeyen Mekanik Manipülatörlerin Kontrolü, Postgraduate, Ö.Can(Student), 2012
BURKAN R., Robot Manipülatörlerin Bulanık Mantıklı Gürbüz Kontrolü, Postgraduate, A.Mutlu(Student), 2011

Jury Memberships

Doctorate, Tez Savunma Jürisi,, İstanbul Üniversitesi, May, 2017

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Design of adaptive compensators for the control of robot manipulators robust to unknown structured and unstructured parameters**
Burkan R.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.21, no.2, pp.452-469, 2013
(SCI-Expanded)
- II. **Design parameters and uncertainty bound estimation functions for adaptive-robust control of robot manipulators**
Burkan R.
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.20, no.1, pp.169-186, 2012
(SCI-Expanded)
- III. **Modelling of Bound Estimation Laws and Robust Controllers for Robustness to Parametric Uncertainty for Control of Robot Manipulators**
Burkan R.
JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.60, pp.365-394, 2010 (SCI-Expanded)
- IV. **Upper bounding estimation for robustness to the parameter uncertainty with trigonometric function in trajectory control of robot arms**
Burkan R.
JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.46, no.3, pp.263-283, 2006 (SCI-Expanded)
- V. **Modelling of a logarithmic parameter adaptation law for adaptive control of mechanical**

manipulators

Burkan R.

ROBOTICA, vol.24, pp.523-525, 2006 (SCI-Expanded)

- VI. **Application of logarithmic-based parameter and upper bounding estimation rules to adaptive-robust control of robot manipulators**
Burkan R., Uzmay İ.
EUROPEAN JOURNAL OF CONTROL, vol.12, no.2, pp.156-170, 2006 (SCI-Expanded)
- VII. **Robust and adaptive control of three dimensional revolute-jointed cooperative manipulators for handling automation**
Sarıkaya H., Burkan R., Uzmay İ.
ROBOTICA, vol.24, pp.163-172, 2006 (SCI-Expanded)
- VIII. **Logarithmic based robust approach to parametric uncertainty for control of robot manipulators**
Burkan R., Uzmay İ.
INTERNATIONAL JOURNAL OF ROBUST AND NONLINEAR CONTROL, vol.15, no.10, pp.427-436, 2005 (SCI-Expanded)
- IX. **A model of parameter adaptive law with time varying function for robot control**
Burkan R., Uzmay İ.
APPLIED MATHEMATICAL MODELLING, vol.29, no.4, pp.361-371, 2005 (SCI-Expanded)
- X. **Design of an adaptive control law using trigonometric functions for robot manipulators**
Burkan R.
ROBOTICA, vol.23, pp.93-99, 2005 (SCI-Expanded)
- XI. **Application of robust and adaptive control techniques to cooperative manipulation**
Uzmay İ., Burkan R., Sarıkaya H.
CONTROL ENGINEERING PRACTICE, vol.12, no.2, pp.139-148, 2004 (SCI-Expanded)
- XII. **Upper bounding estimation for robustness to the parameter uncertainty in trajectory control of robot arm**
Burkan R., Uzmay İ.
ROBOTICS AND AUTONOMOUS SYSTEMS, vol.45, no.2, pp.99-110, 2003 (SCI-Expanded)
- XIII. **Variable upper bounding approach for adaptive-robust control in robot control**
Burkan R., Uzmay İ.
JOURNAL OF INTELLIGENT & ROBOTIC SYSTEMS, vol.37, no.4, pp.427-442, 2003 (SCI-Expanded)
- XIV. **Parameter estimation and upper bounding adaptation in adaptive-robust control approaches for trajectory control of robots**
Uzmay İ., Burkan R.
ROBOTICA, vol.20, pp.653-660, 2002 (SCI-Expanded)

Articles Published in Other Journals

- I. **Model reaching adaptive-robust control law for vibration isolation systems with parametric uncertainty**
BURKAN R., ÖZGÜNEY Ö. C., Özbek C.
JOURNAL OF VIBROENGINEERING, vol.20, no.1, pp.1392-8716, 2018 (Scopus)
- II. **Model reaching adaptive-robust control law for vibration isolation systems with parametric uncertainty**
Burkan R., Ozguney O. C., Ozbek C.
JOURNAL OF VIBROENGINEERING, vol.20, no.1, pp.300-309, 2018 (ESCI)
- III. **DETERMINATION OF ADAPTIVE CONTROL PARAMETER USING FUZZY LOGIC CONTROLLER**
ÖZGÜNEY Ö. C., BURKAN R.
INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH, vol.6, pp.243-247, 2017 (Scopus)
- IV. **FUZZY-ROBUST CONTROL OF A TWO-LINK ROBOT ARM**

MUTLU A., BURKAN R.

International Journal for Science, Technics and Innovations for the Industry "Machines. Technologies. Materials", no.5, pp.214-217, 2017 (Peer-Reviewed Journal)

V. BALANCE CONTROL OF SEGWAY ROBOTS USING ADAPTIVE-ROBUST CONTROLLER

BURKAN R., ÖZGÜNEY Ö. C.

INTERNATIONAL SCIENTIFIC JOURNAL INDUSTRY, pp.38-41, 2017 (Peer-Reviewed Journal)

VI. , A method for modelling of parameter estimation laws depending on functions for adaptive control of robot manipulators

BURKAN R.

modelling of parameter estimation laws depending on functions for adaptive control of robot manipulators, International Journal of Computer Applications in Technology, vol.41, no.3, pp.230-235, 2011 (Scopus)

VII. A Comparison of Different Control Laws in Trajectory Control for a Revolute-Jointed Manipulator

BURKAN R., Uzmay İ.

TURKISH JOURNAL OF ENGINEERING AND ENVIRONMENTAL SCIENCES, vol.27, no.5, pp.315-331, 2003 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

I. Titreşim Sönümleme Sistemleri İçin Model Erişimli Gürbüz Uyarlamalı Kontrolcü Tasarımı ve Taşıt Süspansiyon Sistemine Uygulanması

BURKAN R., Özbek C., ÖZGÜNEY Ö. C.

UMTS 2017, Trabzon, Turkey, 5 - 07 July 2017, pp.286-293

II. Fuzzy-Robust Control Of a Two-Link Robot Arm

MUTLU A., BURKAN R.

XXV International Scientific Conference "trans&MOTAUTO'17", Burgas, Bulgaria, 28 June - 01 July 2017, vol.1, no.1, pp.21-24

III. BALANCE CONTROL OF SEGWAY ROBOTS USING ADAPTIVE-ROBUST CONTROLLER

BURKAN R., ÖZGÜNEY Ö. C.

XIV International Scientific Conference Machines, Technologies, Materials, Borovest, Bulgaria, 15 - 18 March 2017, pp.14-17

IV. Fuzzy – Adaptive - Robust Control of Robot Manipulators

BURKAN R., ÖZGÜNEY Ö. C.

5th International Conference on Electrical, Computer, Mechanical and Mechatronics Engineering, İstanbul, Turkey, 1 - 02 September 2016, pp.33

V. Adaptive-robust control of spatial robot arm

BURKAN R., ÖZGÜNEY Ö. C.

CAIM 2014, Bacau, Romania, 18 - 21 September 2014, pp.64-65

VI. Tağıt Aktif Süspansiyon Sistemlerinin Adaptif Kontrolü

Özbek C., BURKAN R., ÖZGÜNEY Ö. C.

TOK 2014 Otomatik Kontrol Ulusal Toplantısı, Kocaeli, Turkey, 11 - 13 September 2014, pp.295-300

VII. Taşıt Aktif Süspansiyon Sistemlerinin Adaptif Kontrolü

ÖZBEK C., BURKAN R., ÖZGÜNEY Ö. C.

Otomatik Kontrol Türk Milli Komitesi Ulusal Toplantısı, Kocaeli, Turkey, 11 - 13 September 2014, pp.295-300

VIII. Fuzzy logic robust control of robot manipulators

MUTLU A., BURKAN R.

21. Conference on Applied and Industrial Mathematics, Bükreş, Romania, 1 - 04 September 2013, pp.52

IX. YENİ BİR UYARLAMALI-GÜRBÜZ KONTROLÇÜ GELİŞTİRİLMESİ VE ÜÇ BOYUTLU BİR MEKANİK MANİPÜLATÖRE UYGULANMASI

BURKAN R., ÖZGÜNEY Ö. C.

Ulusal Makine Teorisi Sempozyumu 2013, Erzurum, Turkey, 1 - 04 September 2013, pp.445-451

Supported Projects

BURKAN R., Project Supported by Higher Education Institutions, Parametreleri bilinmeyen robotların kontrolü, 2014 - 2014

BURKAN R., Project Supported by Higher Education Institutions, Robotların uyarlamalı-gürbüz kontrolü, 2012 - 2013

BURKAN R., Project Supported by Higher Education Institutions, Robotların robust kontrolünde yeni metot, 2011 - 2012

Scientific Refereeing

IEEE Transactions on Industrial Electronics, SCI Journal, December 2017

Journal of Mechanical Engineering Science, SCI Journal, November 2017

Asian Journal of Control, SCI Journal, November 2017

IET Control Theory & Applications, SCI Journal, October 2017

IEEE Transactions on Industrial Electronics, SCI Journal, September 2017

IEEE Transactions on Industrial Electronics, SCI Journal, August 2017

IEEE Transactions on Industrial Electronics , SCI Journal, June 2017

IET Control Theory and Applications, SCI Journal, May 2017

IEEE Transactions on Industrial Electronics , SCI Journal, April 2017

IEEE Transactions on Industrial Electronics , SCI Journal, March 2017

Journal of Mechanical Science and Technology, SCI Journal, March 2017

International Journal of Control, SCI Journal, February 2017

IEEE Transactions on Industrial Electronics , SCI Journal, November 2016

INTERNATIONAL JOURNAL OF CONTROL, SCI Journal, February 2016

Sigma Journal of Engineering and Natural Sciences, Other Indexed Journal, February 2016

International journal of control, SCI Journal, August 2015

Metrics

Publication: 30

Citation (WoS): 101

Citation (Scopus): 116

H-Index (WoS): 6

H-Index (Scopus): 7

Congress and Symposium Activities

UMTS 2017, Attendee, Trabzon, Turkey, 2017