

## Arş.Gör. DEMET ÇILDEN GÜLER

### Kişisel Bilgiler

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### Eğitim Bilgileri

Doktora, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Uçak Ve Uzay Mühendisliği, Türkiye 2016 - Devam Ediyor  
Yüksek Lisans, İstanbul Teknik Üniversitesi, Fen Bilimleri Enstitüsü, Uçak Ve Uzay Mühendisliği, Türkiye 2014 - 2016  
Lisans, İstanbul Teknik Üniversitesi, Uçak Ve Uzay Bilimleri Fakültesi, Uzay Mühendisliği, Türkiye 2009 - 2014

### Araştırma Alanları

Havacılık ve Uzay Mühendisliği, Uzay Mühendisliği, Mühendislik ve Teknoloji

### Akademik Unvanlar / Görevler

Araştırma Görevlisi, İstanbul Medeniyet Üniversitesi, Mühendislik Ve Doğa Bilimleri Fakültesi, Uzay Mühendisliği Bölümü, 2014 - Devam Ediyor  
Araştırmacı, University of Colorado at Boulder, Mühendislik ve Uygulamalı Bilimler Fakültesi, Havacılık ve Uzay Mühendisliği Bilimleri Bölümü, 2019 - 2020  
Araştırma Görevlisi, İstanbul Teknik Üniversitesi, Uçak Ve Uzay Bilimleri, Uzay Mühendisliği, 2015 - 2018

### SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

- I. **Two-Stage Kalman Filter for Fault Tolerant Estimation of Wind Speed and UAV Flight Parameters**  
Hajiyev C., Cilden-Guler D., Hacizade U.  
MEASUREMENT SCIENCE REVIEW, cilt.20, ss.35-42, 2020 (SCI İndekslerine Giren Dergi)
- II. **Nontraditional Attitude Filtering with Simultaneous Process and Measurement Covariance Adaptation**  
Hajiyev C., Soken H. E. , Cilden-Guler D.  
JOURNAL OF AEROSPACE ENGINEERING, cilt.32, 2019 (SCI İndekslerine Giren Dergi)
- III. **Nanosatellite attitude estimation using Kalman-type filters with non-Gaussian noise**  
Cilden-Guler D., Raitoharju M., Piche R., Hajiyev C.  
Aerospace Science and Technology, cilt.92, ss.66-76, 2019 (SCI İndekslerine Giren Dergi)
- IV. **SVD-aided EKF attitude estimation with UD factorized measurement noise covariance**  
Cilden-Guler D., Hajiyev C.  
ASIAN JOURNAL OF CONTROL, cilt.21, ss.1423-1432, 2019 (SCI İndekslerine Giren Dergi)
- V. **Evaluation of geomagnetic field models using magnetometer measurements for satellite attitude determination system at low earth orbits: Case studies**  
Cilden-Guler D., Kaymaz Z., Hajiyev C.  
ADVANCES IN SPACE RESEARCH, cilt.61, ss.513-529, 2018 (SCI İndekslerine Giren Dergi)
- VI. **SINGLE-FRAME ATTITUDE DETERMINATION METHODS FOR NANOSATELLITES**  
Cilden Guler D., Conguroglu E. S. , Hajiyev C.

METROLOGY AND MEASUREMENT SYSTEMS, cilt.24, ss.313-324, 2017 (SCI İndekslerine Giren Dergi)

VII. **Review on gyroless attitude determination methods for small satellites**

Hajiyev C., Cilden Guler D.

PROGRESS IN AEROSPACE SCIENCES, cilt.90, ss.54-66, 2017 (SCI İndekslerine Giren Dergi)

VIII. **NANOSATELLITE ATTITUDE ESTIMATION FROM VECTOR MEASUREMENTS USING SVD-AIDED UKF ALGORITHM**

Cilden D., SOKEN H. E. , Hajiyev C.

METROLOGY AND MEASUREMENT SYSTEMS, cilt.24, ss.113-125, 2017 (SCI İndekslerine Giren Dergi)

IX. **Gyro-free attitude and rate estimation for a small satellite using SVD and EKF**

Hajiyev C., Cilden D., SOMOV Y.

AEROSPACE SCIENCE AND TECHNOLOGY, cilt.55, ss.324-331, 2016 (SCI İndekslerine Giren Dergi)

## **Diğer Dergilerde Yayınlanan Makaleler**

I. **Fault tolerant control of attitude dynamics of nanosatellites**

Cilden-Guler D., Hajiyev C., Dasedemir J.

INTERNATIONAL JOURNAL OF SUSTAINABLE AVIATION, cilt.4, ss.99-113, 2018 (ESCI İndekslerine Giren Dergi)

II. **Singular value decomposition based satellite attitude determination using different sensor configurations**

Guler D., Hajiyev C.

International Journal of Metrology and Quality Engineering, cilt.8, 2017 (Diğer Kurumların Hakemli Dergileri)

## **Hakemli Kongre / Sempozyum Bildiri Kitaplarında Yer Alan Yayınlar**

I. **Assessment of Magnetic Storm Effects under Various Magnetometer Noise Levels for Satellite Attitude Estimation**

Cilden-Guler D., Kaymaz Z., Hajiyev C.

9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 11 - 14 Haziran 2019, ss.769-773

II. **EKF for Wind Speed Estimation and Sensor Fault Detection Using Pitot Tube Measurements**

Hajiyev C., Guler D., Hacizade U.

9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 11 - 14 Haziran 2019, ss.887-893

III. **Two-Stage Kalman Filter for Estimation of Wind Speed and UAV Flight Parameters Based on GPS/INS and Pitot Tube Measurements**

Hajiyev C., Cilden-Guler D., Hacizade U.

9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 11 - 14 Haziran 2019, ss.875-880

IV. **Data Fusion for Integrated Baro/GPS Altimeter**

Hajiyev C., Hacizade U., Cilden-Guler D.

9th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 11 - 14 Haziran 2019, ss.881-885

V. **UD Factorization Based Non-Traditional Attitude Estimation of Nanosatellite with Rate Gyros FDI**

Cilden-Guler D., Hajiyev C.

18th International-Federation-of-Automatic-Control (IFAC) Conference on Technology, Culture and International Stability (TECIS), Baku, Azerbaycan, 13 - 15 Eylül 2018, cilt.51, ss.95-100

VI. **Gyroless Nanosatellite Attitude Estimation in Loss of Sun Sensor Measurements**

Hajiyev C., Cilden-Guler D.

18th International-Federation-of-Automatic-Control (IFAC) Conference on Technology, Culture and International

Stability (TECIS), Baku, Azerbaycan, 13 - 15 Eylül 2018, cilt.51, ss.89-94

- VII. **Integrated SVD/EKF attitude estimation with UD factorization of the measurement noise covariance**  
Guler D., Hajiyev C.  
8th International Conference on Recent Advances in Space Technologies, RAST 2017, İstanbul, Türkiye, 19 - 22 Haziran 2017, ss.343-348
- VIII. **Geomagnetic models at low earth orbit and their use in attitude determination**  
Guler D., Kaymaz Z., Hajiyev C.  
8th International Conference on Recent Advances in Space Technologies, RAST 2017, İstanbul, Türkiye, 19 - 22 Haziran 2017, ss.301-305
- IX. **Nontraditional UKF based nanosatellite attitude estimation with the process and measurement noise covariances adaptation**  
Hajiyev C., Guler D., Soken H. E.  
8th International Conference on Recent Advances in Space Technologies, RAST 2017, İstanbul, Türkiye, 19 - 22 Haziran 2017, ss.381-386
- X. **Attitude Determination of Nanosatellites in the Sun-Eclipse Phases**  
Hajiyev C., Cilden-Guler D., Somov Y.  
8th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 19 - 22 Haziran 2017, ss.397-401
- XI. **Integrated SVD/EKF for small satellite attitude determination and rate gyro bias estimation**  
Hajiyev C., Çilden D., Somov Y.  
1st IFAC Workshop on Advanced Control and Navigation for Autonomous Aerospace Vehicles, ACNAAV 2015, Sevilla, İspanya, 10 - 12 Haziran 2015, cilt.28, ss.233-238
- XII. **Attitude and Attitude Rate Estimation for a Nanosatellite Using SVD and UKF**  
Cilden D., Hajiyev C., Soken H. E.  
7th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 16 - 19 Haziran 2015, ss.695-700
- XIII. **Comparison of Geomagnetic Field from Models and Satellite Observations for Attitude Determination Purposes**  
Cilden D., Kaymaz Z., Hajiyev C.  
7th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 16 - 19 Haziran 2015, ss.483-487
- XIV. **Covariance Analysis of Three-Axis Attitude Determination Using Two Vector Measurements**  
Cilden D., Conguroglu E. S., Hajiyev C.  
7th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 16 - 19 Haziran 2015, ss.701-706
- XV. **Gyroless Attitude and Rate Estimation of Small Satellites Using Singular Value Decomposition and Extended Kalman Filter**  
Hajiyev C., Cilden D., Somov Y.  
16th International Carpathian Control Conference (ICCC), Miskolc, Macaristan, 27 - 30 Mayıs 2015, ss.159-164
- XVI. **Extraterrestrial Magnetic Field Effects on Attitude Determination Accuracy of Small Satellites**  
Cilden D., Kaymaz Z., Hajiyev C.  
7th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Türkiye, 16 - 19 Haziran 2015, ss.707-711

## **Desteklenen Projeler**

TÜBİTAK Projesi, Küçük Enformasyon Uyduların Tümlleştirilmiş Yönelme Belirleme Sistemleri, Yörüngede Sensor Kalibrasyonu, Uzun Süreli Güdüm Ve Arıza Toleranslı Yönelme Kontrolü İçin Yöntemler Ve Algoritmalar Geliştirilmesi, 2014 - 2016

## **Atıflar**

Toplam Atıf Sayısı (WOS):76

h-indeksi (WOS):4

## **Ödüller**

Çilden Güler D., Best Oral Presentation Award, 9Th International Conference On Mechanical And Aerospace Engineering, Temmuz 2018

Çilden Güler D., Amelia Earhart Fellowship Award, Zonta International, Haziran 2018

ÇILDEN GÜLER D., En İyi Bildiri Ödülü: "Attitude and Attitude Rate Estimation for a Nanosatellite Using SVD and UKF", 7th International Conference on Recent Advances in Space Technologies-RAST, Haziran 2015