

## Prof. YALÇIN TANIK

### Personal Information

**Email:** tanik@metu.edu.tr

**Web:** <https://avesis.metu.edu.tr/tanik>

### Advising Theses

TANIK Y., Investigation of range migration compensation in radar detection, Doctorate, O.ÇULHA(Student), 2022

TANIK Y., DIRECTION OF ARRIVAL ESTIMATION OF V/UHF RADIO SIGNALS OVER SEA PLATFORMS, Postgraduate, Ü.ORAL(Student), 2016

TANIK Y., Airborne high frequency direction finding, Postgraduate, F.EMRE(Student), 2015

TANIK Y., Algebraic spectral moments based moving clutter parameter estimation and clutter suppression, Postgraduate, O.OKTAR(Student), 2014

YILMAZ A. Ö., TANIK Y., A reduced complexity Ungerboeck type receiver for multi-code signaling in dispersive channels, Doctorate, G.MUZAFFER(Student), 2014

TANIK Y., Parametric estimation of clutter autocorrelation matrix for ground moving target indication, Postgraduate, E.KALENDER(Student), 2013

TANIK Y., An adaptive fast time radar receiving filter for minimization of clutter and time side-lobes, Postgraduate, S.ÖZDEMİR(Student), 2013

TANIK Y., Receiver design for a class of new pulse shapes for cpm signals, Postgraduate, B.UĞURLU(Student), 2012

KUZUOĞLU M., TANIK Y., Low elevation target detection and direction finding, Postgraduate, G.UYAR(Student), 2012

TANIK Y., Performance analysis of a digital communication system on sea platforms, Postgraduate, G.ŞENOL(Student), 2012

TANIK Y., A knowledge based approach in GMTI for the estimation of the clutter covariance matrix in space time adaptive processing, Postgraduate, E.ANADOL(Student), 2012

TANIK Y., A study on symbol synchronization and channel estimation for M-ary orthogonal transmission, Postgraduate, E.KARAGÖZLÜ(Student), 2011

TANIK Y., Noncoherent differential demodulation of CPM signals with joint frequency offset and symbol timing estimation, Postgraduate, O.ÇULHA(Student), 2011

TANIK Y., Digital modulation recognition, Postgraduate, E.ERDEM(Student), 2009

TANIK Y., Recursive passive localization methods using time difference of arrival, Postgraduate, S.ÇAMLICA(Student), 2009

TANIK Y., Highly efficient new methods of channel estimation for OFDM systems, Doctorate, S.ÇÜRÜK(Student), 2008

TANIK Y., Linear prediction for single snapshot multiple target Doppler estimation under possibly moving radar clutter, Postgraduate, B.BARAN(Student), 2008

TANIK Y., Direction finding with TDOA in a multipath land environment, Postgraduate, Ç.HALİS(Student), 2007

TANIK Y., An investigation of jamming techniques through a radar receiver simulation, Postgraduate, A.ASLI(Student), 2007

TANIK Y., Radar target detection in non-Gaussian clutter, Doctorate, Ü.DOYURAN(Student), 2007

TANIK Y., Optimization of non-uniform planar array geometry for direction of arrival estimation, Doctorate, T.BİRİNCİ(Student), 2006

TANIK Y., Symbol timing recovery for CPM signals based on matched filtering, Postgraduate, Ç.BAŞERDEM(Student), 2006

DEMİR Ş., TANIK Y., Design of an FM-CW radar altimeter, Postgraduate, Y.BARIŞ(Student), 2005

TANIK Y., Channel estimation for OFDM systems, Postgraduate, İ.GÜREL(Student), 2005

TANIK Y., OFDM PAPR reduction with linear coding and codeword modification, Postgraduate, A.SUSAR(Student), 2005

TANIK Y., Optimization of Doppler processing by using bank of matched filters, Postgraduate, O.AKTOP(Student), 2005

TANIK Y., Nonuniform pulse repetition interval optimization for pulse doppler radars, Postgraduate, H.Mercan(Student), 2004

TANIK Y., Performance of a transmit delay scheme in digital simulcast environment, Postgraduate, A.ÖZGÜR(Student), 2004

TANIK Y., Nonuniform pulse repetition interval optimization for pulse doppler radars, Postgraduate, H.MERCAN(Student), 2004

TANIK Y., Optimization of the array geometry for direction finding, Postgraduate, S.ÖZAYDIN(Student), 2003

TANIK Y., Symbol synchronization for MSK signals based on matched filtering, Postgraduate, S.SEZGİNER(Student), 2003

TANIK Y., Implementation of the music algorithm on a multiprocessor architecture, Postgraduate, M.ŞENGÜL(Student), 2002

TANIK Y., A study on subcarrier synchronizaton in ofdm systems., Postgraduate, H.Anıktar(Student), 2002

TANIK Y., A Study on subcarrier synchronization in OFDM systems, Postgraduate, H.ANIKTAR(Student), 2002

TANIK Y., A survey on modulation recognition., Postgraduate, Ö.Ateş(Student), 2002

TANIK Y., A Survey on modulation recognition, Postgraduate, Ö.ATEŞ(Student), 2002

TANIK Y., Time synchronization in OFDM., Postgraduate, A.KÜRŞAD(Student), 2002

TANIK Y., Decision directed adaptive filtering for interference suppression, Postgraduate, Ü.ÇİLEK(Student), 2001

TANIK Y., Performance analysis fo adaptive loading OFDM under Rayleigh fading with diversity combining, Doctorate, B.Canpolat(Student), 2001

TANIK Y., Passive radar localization by TDOA measurements, Postgraduate, A.DERSAN(Student), 2001

TANIK Y., New pulse shapes for CPM signals, Postgraduate, Ç.ENİS(Student), 2001

TANIK Y., Performance analysis of adaptive loading OFDM under rayleigh fading with diversity combining, Doctorate, B.CANPOLAT(Student), 2001

TANIK Y., Multi-H continuous ophase modulcation system optimization with multi bit-duration, Postgraduate, Ş.Serkan(Student), 2001

TANIK Y., Multi-h continuous phase modulation system optimization with multi bit-duration, Postgraduate, Ş.SERKAN(Student), 2001

TANIK Y., Performance evaluation of a centralized packet reservation multiple access protocol for local wireless communications, Postgraduate, C.ÖNEY(Student), 2000

TANIK Y., Cyclostationarity based signal detection and direction finding using time-difference-of-arrival method, Postgraduate, I.YAZGAN(Student), 2000

TANIK Y., Performance evaluation of routing and forwarding algorithms for packet radio networks, Postgraduate, T.İPEK(Student), 2000

TANIK Y., Adaptive antenna array for dect system, Postgraduate, S.ÖZGÜN(Student), 2000

TANIK Y., Performance evolution of super-pocket and reservation protocols for pocket radio networks, Postgraduate, S.DÖKMEN(Student), 1999

TANIK Y., Performance analysis of a new synclicronization method for direct sequence spread spectrum radio, Postgraduate, C.TOKER(Student), 1999

TANIK Y., A Novel approach for the design of pulse shaping filters, Postgraduate, S.MURATOĞLU(Student), 1999

TANIK Y., Performance evaluation of super-packet and reservation protocols for packet radio networks, Postgraduate, S.Dökmen(Student), 1999

TANIK Y., Clustering techniques for emitter identification in electronic warfare, Postgraduate, A.RIZA(Student), 1999

TANIK Y., Direction finding with a circularly rotated antenna, Postgraduate, E.ŞEN(Student), 1999

TANIK Y., Antenna diversity and beamforming for CDMA mobile systems, Doctorate, A.(YANARTAŞ)(Student), 1999

TANIK Y., Performans evaluation of a distributed TDMA rescheduling procedure for mobile packed radio networks, Postgraduate, A.ÖZNUR(Student), 1998

TANIK Y., Permonce evaluation of a distributed TDMA rescheduling procedure for mobile packet radio networks., Postgraduate, A.Öznur(Student), 1998

TANIK Y., Design and development of a new spreading scheme for s-cdma cellular mobile systems, Doctorate, B.ÜNAL(Student), 1997

TANIK Y., Downlink power control for S-CDMA cellular systems, Postgraduate, E.MUTLU(Student), 1997

TANIK Y., Performance analysis of the destreceiver by simulation, Postgraduate, d.Ölgen(Student), 1996

TANIK Y., Correlation smoothing for DOA tracking, subspace tacking by Jacobi method and their performances in conjunction with music, Doctorate, M.Koşaroğlu(Student), 1996

TANIK Y., Direction finding with a uniform circular array via single snapshot processing, Doctorate, A.KOÇ(Student), 1996

TANIK Y., Design and simulation of a tranceiver architecture for VHF frequency hopping military radios, Postgraduate, O.Dinçer(Student), 1996

TANIK Y., Direction finding with a uniform circular arry via single snapshot processing,, Doctorate, A.Tuncay(Student), 1996

TANIK Y., Correlation smooting for DOA tracking subspace tracking by jacabi method and their performances in conjunction with music, Doctorate, M.KOŞAROĞLU(Student), 1996

TANIK Y., Designand simulation of a transceiver architecture for VHF frequency hopping military radios, Postgraduate, O.DİNÇER(Student), 1996

TANIK Y., Performance analysis of the DECT receiver by simulation, Postgraduate, D.ÖLGEN(Student), 1996

TANIK Y., Simultaneous data detection and carrier phase synchronization for trellis coded PSK schemes, Postgraduate, Ö.Gürbüz(Student), 1995

TANIK Y., Design and simulation of an adaptive MLSE receiver for GSM systems, Postgraduate, B.CANPOLAT(Student), 1994

TANIK Y., Subjective evaluation of GSM speech codec under different conditions, Postgraduate, B.GÜRTUNCA(Student), 1994

TANIK Y., Design and implementation of a DSP based Hf channel simulator, Postgraduate, Y.SERBEST(Student), 1994

TANIK Y., Design and simulation of an adaptive MLSE receiver for GSM system, Postgraduate, B.Canpolat(Student), 1994

TANIK Y., Emitter identification in electronic varfare by the use of clustering techniques, Postgraduate, E.GÜVEN(Student), 1994

TANIK Y., Emitter identification in electronic warfare by the use of clustering techniques, Postgraduate, E.Güven(Student), 1994

TOKER C., TANIK Y., Path loss measurements at 1.2 GHz in indoor environments, Postgraduate, A.Murat(Student), 1993

TANIK Y., Simulation of cellular land mobile radio communication, Postgraduate, A.UFUK(Student), 1992

TANIK Y., Acquisition of PN-sequence by sequential estimation with error correction, Postgraduate, H.Kapıdere(Student), 1992

TANIK Y., Performance assessment of a BPSK CDMA system using un urban radio channel model, Postgraduate, A.Yanartaş(Student), 1991

TANIK Y., Performance assesment of a BPSK CDMA system using an urban radio channel model, Postgraduate, A.YANARTAŞ(Student), 1991

TANIK Y., A TMS 5220 based speech synthesis development system, Postgraduate, A.Gerçek(Student), 1991

TANIK Y., A New criterion for equalization of the high frequency channel, Postgraduate, S.UZUNER(Student), 1991

TANIK Y., A New speech distortion evaluation method, Postgraduate, Z.PINAR(Student), 1991

TANIK Y., A new criterion for equalization of the HF channel, Postgraduate, S.Uzuner(Student), 1991

TANIK Y., A TSM 5220 based speech synthesis development system, Postgraduate, A.GERÇEK(Student), 1991

TANIK Y., A Study on the multi-pulse LPC analysis and a novel multi-pulse speech coder, Doctorate, K.HACIOĞLU(Student), 1990

TANIK Y., A map joint delay and channel parameter estimator, Postgraduate, A.Arıkan(Student), 1990

TANIK Y., A maximum posteriori estimation joint delay and channel parameter estimator, Postgraduate, A.ARIKAN(Student), 1990

TANIK Y., A study on the multipulse LPC analysis and a novel multi-pulse speech coder, Doctorate, K.Hacıoğlu(Student), 1990

TANIK Y., On the frequency domain LMS adaptive line enhancer, Postgraduate, M.KOŞAROĞLU(Student), 1989

TANIK Y., Adaptive equalization of the HF fading multipath channels by using a fractionally spaced decision feedback equalizer and a modified kalman channel tracking scheme, Postgraduate, M.SALİH(Student), 1989

TANIK Y., Performance analysis of minimum mean square error type synchronizers for partial response signalling

systems, Postgraduate, F.MURAT(Student), 1989

TANIK Y., Performance analysis of the music algorithm in direction finding systems, Postgraduate, B.BAYGÜN(Student), 1988

TANIK Y., Analysis of certain serial search strategies for FM frequency hopping system, Postgraduate, N.TEKİNEL(Student), 1988

TANIK Y., Comparison of a BFSK system with rectangular and nyquist pulse shaping and the effects of if filters on the performance, Postgraduate, M.KANI(Student), 1988

TANIK Y., Comparison of a BFSK system with rectangular and Nyquist pulse shaping and the effects of if filters on the performance., Postgraduate, M.Kani(Student), 1988

TANIK Y., Performance analysis of a 16 QAM 140 MBIT/S digital radio, Postgraduate, B.ŞAHİNER(Student), 1988

## **Published journal articles indexed by SCI, SSCI, and AHCI**

- I. **Low Complexity Keystone Transform and Radon Fourier Transform Utilizing Chirp-Z Transform**  
Culha O., TANIK Y.  
IEEE ACCESS, vol.8, pp.105535-105541, 2020 (SCI-Expanded)
- II. **Expectation Maximization-Based Detection in Range-Heterogeneous Weibull Clutter**  
Doyuran U. C., TANIK Y.  
IEEE TRANSACTIONS ON AEROSPACE AND ELECTRONIC SYSTEMS, vol.50, no.4, pp.3156-3166, 2014 (SCI-Expanded)
- III. **A Reduced-State Ungerboeck Type MAP Receiver with Bidirectional Decision Feedback for M-ary Quasi Orthogonal Signaling**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
IEEE TRANSACTIONS ON COMMUNICATIONS, vol.62, no.2, pp.552-566, 2014 (SCI-Expanded)
- IV. **A simplified MAP channel estimator for OFDM systems under Rayleigh fading**  
ÇÜRÜK S., TANIK Y.  
EUROPEAN TRANSACTIONS ON TELECOMMUNICATIONS, vol.21, no.4, pp.396-405, 2010 (SCI-Expanded)
- V. **Optimization of nonuniform array geometry for DOA estimation with the constraint on gross error probability**  
Birinci T., Tanik Y.  
SIGNAL PROCESSING, vol.87, no.10, pp.2360-2369, 2007 (SCI-Expanded)
- VI. **A novel approach for the design of pulse shaping filters**  
Curuk S. M., Tanik Y.  
IEEE COMMUNICATIONS LETTERS, vol.10, no.6, pp.438-440, 2006 (SCI-Expanded)

## **Articles Published in Other Journals**

- I. **Efficient Range Migration Compensation Method Based on Doppler Ambiguity Shift Transform**  
Culha O., TANIK Y.  
IEEE SENSORS LETTERS, vol.6, no.3, 2022 (ESCI)

## **Refereed Congress / Symposium Publications in Proceedings**

- I. **A Novel Neural Network Architecture for Radar Clutter Classification**  
Eraslan B., GÜVENSEN G. M., TANIK Y.  
18th IEEE World Symposium on Applied Machine Intelligence and Informatics (SAMI), Herlany, Slovakia, 23 - 25 January 2020, pp.263-268
- II. **Turbo Parametric Spectral Estimation Method of Clutter Profile for Adaptive Radar Detection**

Eraslan B., GÜVENSEN G. M., TANIK Y.

IEEE 29th International Symposium on Industrial Electronics (ISIE), ELECTR NETWORK, 17 - 19 June 2020, pp.417-422

- III. **Experimental Evaluation of the Knowledge-Aided Sigma-Delta STAP Algorithm to Improve GMTI Performance**  
Anadol E., TANIK Y.  
10th European Conference on Synthetic Aperture Radar (EUSAR), Berlin, Germany, 3 - 05 June 2014
- IV. **An efficient ungerboeck type MAP receiver for multi-user channel with M-Ary quasi orthogonal signaling M-Ary yaklaşık dikgen sinyalleşme ile çoklu erişim için etkin ungerboeck tipinde MAP alicisi**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
2013 21st Signal Processing and Communications Applications Conference, SIU 2013, Haspolat, Turkey, 24 - 26 April 2013
- V. **An Efficient Ungerboeck Type MAP Receiver for Multi-User Channel with M - ary Quasi Orthogonal Signaling**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
21st Signal Processing and Communications Applications Conference (SIU), CYPRUS, 24 - 26 April 2013
- VI. **Robust spread spectrum type communication with M-ary quasi orthogonal signaling for wireless fading channels M-ary yaklaşık dikgen sinyalleşme ile yayili spektruma sahip sistemler için etkin telsiz haberleşme**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
2012 20th Signal Processing and Communications Applications Conference, SIU 2012, Fethiye, Mugla, Turkey, 18 - 20 April 2012
- VII. **On the Carrier Frequency Offset Estimation for Frequency Hopping Burst Mode Mobile Radio**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
MILCOM Military Communications Conference, San-Jose, Costa Rica, 31 October - 03 November 2010, pp.1244-1249
- VIII. **Cut-off Rate based Outage Probability Analysis of Frequency Hopping Mobile Radio under Jamming Conditions**  
GÜVENSEN G. M., TANIK Y., YILMAZ A. Ö.  
MILCOM Military Communications Conference, San-Jose, Costa Rica, 31 October - 03 November 2010, pp.1684-1689
- IX. **Detection of multiple targets in Non-Gaussian clutter**  
Doyuran U. C., TANIK Y.  
2008 IEEE Radar Conference, Rome, Italy, 26 - 30 May 2008, pp.1024-1025
- X. **Multi-range and multi-pulse radar detection in correlated non-Gaussian clutter**  
Doyuran U. C., TANIK Y.  
4th European Radar Conference, Munich, Germany, 10 - 12 October 2007, pp.189-190
- XI. **Detection in heterogeneous radar clutter**  
Doyuran U. C., TANIK Y.  
IEEE 15th Signal Processing and Communications Applications Conference, Eskişehir, Turkey, 11 - 13 June 2007, pp.616-617
- XII. **Simplified MAP estimator for OFDM systems under fading**  
Cueruek S. M., TANIK Y.  
65th IEEE Vehicular Technology Conference, Dublin, Ireland, 22 - 25 April 2007, pp.3165-3169
- XIII. **New Pulse Shapes for CPM Signals**  
Doyuran E., TANIK Y.  
63rd IEEE Vehicular Technology Conference, Melbourne, Australia, 7 - 10 May 2006, pp.236-237

Publication: 20  
Citation (WoS): 36  
Citation (Scopus): 37  
H-Index (WoS): 4  
H-Index (Scopus): 4

**Non Academic Experience**

METU  
METU  
METU  
METU  
METU