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Emre Kopanoglu

Personal Information

Date of Birth: 13 October 1984
Place of Birth: Ankara, Turkey
Marital Status: Married
Languages: English (fluent), French (basic), Turkish (native)

Education

Doctor of Philosophy, 2006 -

Department of Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey
Thesis Title: *Specific Absorption Rate Reduction using Nonlinear Gradient Fields and Finding the Limits on Signal-to-Noise Ratio and Specific Absorption Rate*
Thesis Supervisors: Vakur B. Erturk, Ergin Atalar
Ph. D. Qualification exam: Passed (2009)
GPA: 3.95/4.00

Bachelor of Science, 2002 - 2006

Department of Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey
Research Title: *Directivity Enhancement in Base Stations using Partially Reflective Surfaces*
Advisor: Vakur B. Erturk
GPA: 3.70/4.00

Achievements

2006 - Full scholarship from Bilkent University for Ph. D. studies
2006 - Scholarship from The Scientific and Technological Research Council of Turkey (TUBITAK) for Ph. D. studies
2002 - 2006 Full scholarship from Bilkent University for B. S. education
(Ranked 276th in the National University Entrance Exam among more than 1.5 million examinees)

Research Interests

SAR: SAR reduction using nonlinear gradient fields. Calculations and limits on SAR and intrinsic SAR
Gradient fields: Nonlinear gradient fields, slice and slab selection schemes using nonlinear gradient fields
RF fields: RF coils, RF encoding, Multi-dimensional excitation, Adiabatic pulses, B_1 -mapping, Transmit-array
SNR: Calculations and limits on signal-to-noise ratio and intrinsic SNR
Pulse Sequence Design: Basic pulse sequence design techniques (IDEA - Siemens)
MR Safety

Publications

Peer-Reviewed Journal

1. **E. Kopanoglu**, V. B. Erturk and E. Atalar, Analytic expressions for the ultimate intrinsic signal-to-noise ratio and ultimate intrinsic specific absorption rate in MRI. *Magn Reson Med*, 2011; 66:846-858.

International Conference

10. **E. Kopanoglu**, U. Yilmaz, B. Akin, V. Acikel and E. Atalar. Localizing the excitation to reduce scan time using nonlinear gradient fields, *Proc. Intl. Soc. Mag. Reson. Med. 20*, Melbourne, Australia, 2012; 3471.
9. **E. Kopanoglu**, Y. Gokhalk, U. Yilmaz, V. Acikel and E. Atalar. Decreasing SAR of a multi-dimensional central brightening inhomogeneity correction pulse using nonlinear gradient fields and VERSE, *Proc. Intl. Soc. Mag. Reson. Med. 20*, Melbourne, Australia, 2012; 3470.
8. **E. Kopanoglu**, V. B. Erturk and E. Atalar. Reducing SAR using nonlinear gradient fields: application to B1 inhomogeneity correction with multi-dimensional excitation pulses, *Proc. Eur. Soc. Magn. Reson. Med. Biol. 28*, Leipzig, Germany, 2011; 54.
7. **E. Kopanoglu**, B. Akin, V. B. Erturk and E. Atalar. SAR Reduction using Nonlinear Gradients, *Proc. Intl. Soc. Mag. Reson. Med. 19*, Montreal, Canada, 2011; 1848.
6. **E. Kopanoglu**, A. F. Yilmaz, T. Demir, V. B. Erturk and E. Atalar, A New Class of Encoding Techniques using a Transmit Array: Illustration with Cylindrical Encoding, *Proc. Intl. Soc. Mag. Reson. Med. 18*, Stockholm, Sweden, 2010; 4912.
5. E. A. Turk, **E. Kopanoglu**, Y. Eryaman, V. B. Erturk and E. Atalar, Experimental and Theoretical Analysis of the Induced Voltage along Implant Leads due to Gradient Fields, *Proc. Intl. Soc. Mag. Reson. Med. 18*, Stockholm, Sweden, 2010; 774.
4. N. V. Viskusenko, **E. Kopanoglu**, J. Jezioranski, W. Foltz, O. Algin and E. Atalar, Two Channel Interventional Cervix Coil for High Dose Rate Brachytherapy, *Proc. Intl. Soc. Mag. Reson. Med. 18*, Stockholm, Sweden, 2010; 1864.
3. **E. Kopanoglu**, V. B. Erturk and E. Atalar, A Closed-Form Expression for Ultimate Intrinsic Signal-to-Noise Ratio in MRI, *Proc. Intl. Soc. Mag. Reson. Med. 17*, Honolulu, HI, USA, 2009; 2975.
2. **E. Kopanoglu**, V. B. Erturk and E. Atalar, A closed form expression for radial dependence of the ultimate intrinsic signal-to-noise ratio in MRI, *Proc. Eur. Soc. Magn. Reson. Med. Biol. 26*, Antalya, Turkey, 2009; 481.
1. E. Abaci, **E. Kopanoglu**, V. B. Erturk and E. Atalar, Simple Analytical Equation of the Induced E-Field, *Proc. Intl. Soc. Mag. Reson. Med. 16*, Toronto, Canada, 2008; 1051.

National Conference

6. **E. Kopanoglu**, B. Akin, V. B. Erturk and E. Atalar, Dogrusal Olmayan Gradyanlar Kullanarak Ozgul Sogurum Hizinin Dusurulmesi, *Turk Manyetik Rezonans Dernegi 16nci Yillik Toplantisi*, Istanbul, Turkey, 2011.
5. E. A. Turk, **E. Kopanoglu**, Y. Eryaman, V. B. Erturk and E. Atalar, Gradyan sargilarin implant kablosu uzerinde indukledigi voltajin deneysel ve teorik analizi, *Turk Manyetik Rezonans Dernegi 15inci Yillik Toplantisi*, Antalya, Turkey, 2010.
4. N. V. Viskusenko, O. Algin, **E. Kopanoglu**, J. Jezioranski, W. Foltz and M. Milosevic and E. Atalar, Yuksek Doz Hizli Brakiterapi Icin Endoservikal Manyetik Rezonans Goruntuleme Probu, *Turk Manyetik Rezonans Dernegi 15inci Yillik Toplantisi*, Antalya, Turkey, 2010.
3. **E. Kopanoglu**, V. Acikel, V. B. Erturk, and E. Atalar, Kafes Antenlerde Performansin Nihai Icel Sinyal Gurultu Orani Kullanilarak Degerlendirilmesi, *3uncu Turk Manyetik Rezonans Dernegi Kongresi*, Ankara, Turkey, 2008.
2. E. Abaci, **E. Kopanoglu**, V. B. Erturk and E. Atalar, Sonsuz Uzunluktaki Gradyan Sargilarin Vucut Modelinin Icinde ve Disinda Olusturdugu Manyetik ve Elektrik Alan Denklemlerinin Basitlestirilmesi, *3uncu Turk Manyetik Rezonans Dernegi Kongresi*, Ankara, Turkey, 2008.
1. **E. Kopanoglu** and V. B. Erturk, Yansitici Yuzeyleyler Kullanilarak Baz Istasyonlarında Yonlulugun Arttirilmesi, *URSI-Turkiye 3uncu Bilimsel Kongresi*, Ankara, Turkey, 2006.

Academic and Professional Experience

Researcher, 2009 -

National Magnetic Resonance Research Center (UMRAM), Bilkent University, Ankara, Turkey

Research Assistant, 2006 -

Department of Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey

Teaching Assistant, 2006 -

Department of Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey

Undergraduate Teaching Assistant, March 2006 - June 2006

Department of Electrical and Electronics Engineering, Bilkent University, Ankara, Turkey

Intern, June 2005 -August 2005

Aselsan Inc., Ankara, Turkey

Intern, June 2004 -August 2004

Aselsan Inc., Ankara, Turkey

Skills

Computational

Matlab
Siemens IDEA
Ansoft HFSS
Ansoft Designer
PSpice
Finite Element Method
Method of Moments
Finite Difference Time Domain Method

Experimental

Siemens 3T TimTrio
8-ch transmit array

Other

LaTeX
Adobe Photoshop
Microsoft Office

Memberships

Academical

ISMRM - International Society for Magnetic Resonance in Medicine
ESMRMB - European Society for Magnetic Resonance in Medicine and Biology
TMRD - Turkish Society of Magnetic Resonance
IEEE - Institute of Electrical and Electronics Engineers

Other

ToG - "Community Volunteers" - Volunteers society, active in Turkey

Personal Interests

Tango
Photography
Scuba-diving
Basketball
Tennis
Skiing
Biking
