Asst. Prof. Serkan Şahin

Personal Information

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Publons / Web Of Science ResearcherID: CAJ-5697-2022
ScopusID: 25923972800
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Biography

Dr. Serkan Sahin received his B.S. and M.S. degrees in Physics from Boğaziçi University in 2004 and 2006, respectively, and his Ph.D. from the University of Miami in 2012. His research interests lie in optics, ranging from theory to engineering implementations. He has collaborated actively with researchers in several other disciplines of physics and engineering science, particularly on problems of free space/atmospheric communications. Dr. Sahin has published many articles in international refereed journals including Optics Communications, Optics Letters, and Journal of the Optical Society of America; conference papers in prestigious conferences organized by OSA and SPIE. His specializations enclose partial coherence of light beams, laser communications and LIDAR Systems, invisibility, and beam propagation in atmospheric turbulence and free space. Dr. Sahin has been working as a faculty member in the Department of Electrical and Electronics Engineering at TED University since May 2022.

Education Information

Doctorate, University of Miami, United States Of America Continues
Postgraduate, Bogazici University, Turkey Continues
Undergraduate, Bogazici University, Turkey Continues

Research Areas

Electromagnetic, Optics

Academic Titles / Tasks

Assistant Professor, TED University, Faculty of Engineering, Dept.of Electric&Electronics Engineering, 2022 - Continues
Bursa Orhangazi University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği Bölümü, 2013 - 2016

Courses

Senior Project II, Undergraduate

Circuit Theory II, Undergraduate
Circuit Theory I, Undergraduate, 2022 - 2023
Communication Systems I, Undergraduate, 2021 - 2022
Summer Practice I, Undergraduate, 2022 - 2023
Fundamentals of Electrical and Electronics Engineering, Undergraduate, 2022 - 2023
Senior Project I, Undergraduate, 2022 - 2023
Numerical Methods for Engineering, Undergraduate, 2021 - 2022
Summer Practice II, Undergraduate, 2022 - 2023

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Changes in the statistical properties of electromagnetic double multi-Gaussian Schell-model beams on propagation in free space**
Şahin S.
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A: OPTICS AND IMAGE SCIENCE, AND VISION, vol.40, no.5, pp.824-832, 2023 (SCI-Expanded)

II. **Transmission of a polychromatic electromagnetic multi-Gaussian Schell-model beam in an inhomogeneous gradient-index fiber**
Şahin S., Zhang M., Chen Y., Cai Y.
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION, vol.35, no.9, pp.1604-1611, 2018 (SCI-Expanded)

III. **Light scattering by three-dimensional objects with semi-hard boundaries**
Korotkova O., Şahin S., Shchepakina E.
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION, vol.31, no.8, pp.1782-1787, 2014 (SCI-Expanded)

IV. **Multi-Gaussian Schell-model beams**
Korotkova O., Şahin S., Shchepakina E.
JOURNAL OF THE OPTICAL SOCIETY OF AMERICA A-OPTICS IMAGE SCIENCE AND VISION, vol.29, no.10, pp.2159-2164, 2012 (SCI-Expanded)

V. **Light sources generating far fields with tunable flat profiles**
Şahin S., Korotkova O.
OPTICS LETTERS, vol.37, no.14, pp.2970-2972, 2012 (SCI-Expanded)

VI. **Scattering of light from particles with semisoft boundaries**
Şahin S., Gbur G., Korotkova O.
OPTICS LETTERS, vol.36, no.20, pp.3957-3959, 2011 (SCI-Expanded)

VII. **Crystalline human eye lens' response to stochastic light**
Şahin S., Korotkova O.
OPTICS LETTERS, vol.36, no.15, pp.2970-2972, 2011 (SCI-Expanded)

VIII. **Sensing of semi-rough targets embedded in atmospheric turbulence by means of stochastic electromagnetic beams**
Şahin S., Tong Z., Korotkova O.
OPTICS COMMUNICATIONS, vol.283, no.22, pp.4512-4518, 2010 (SCI-Expanded)

IX. **Generalized Stokes parameters in phase space**
Şahin S.
OPTICS LETTERS, vol.35, no.10, pp.1704-1706, 2010 (SCI-Expanded)

X. **Free-space propagation of the spectral degree of cross-polarization of stochastic electromagnetic beams**
Şahin S., Korotkova O., Zhang G., Pu J.
JOURNAL OF OPTICS A-PURE AND APPLIED OPTICS, vol.11, no.8, 2009 (SCI-Expanded)

XI. **Effect of the pair-structure factor of a particulate medium on scalar wave scattering in the first Born**

approximation
Şahin S., Korotkova O.
OPTICS LETTERS, vol.34, no.12, pp.1762-1764, 2009 (SCI-Expanded)

XII. **Scattering of scalar light fields from collections of particles**
Şahin S., Korotkova O.
PHYSICAL REVIEW A, vol.78, no.6, 2008 (SCI-Expanded)

XIII. **Early phases of different types of isolated neutron star**
Ankay A., Şahin S., Karanfil G., Yazgan E.
INTERNATIONAL JOURNAL OF MODERN PHYSICS D, vol.14, no.6, pp.1075-1082, 2005 (SCI-Expanded)

Articles Published in Other Journals

I. **The Effect of Anisotropic Gaussian Schell-Model Sources in Generalized Phase Space Stokes Parameters**
Şahin S.
SAKARYA UNIVERSITY JOURNAL OF SCIENCE, vol.27, no.3, pp.670-679, 2023 (Peer-Reviewed Journal)

II. **The spectral degree of cross -polarization of stochastic electromagnetic beams**
Zhang G., Pu J., Şahin S., Korotkova O.
Guangzi Xuebao/Acta Photonica Sinica, vol.38, no.8, pp.2093-2098, 2009 (Scopus)

Refereed Congress / Symposium Publications in Proceedings

I. **Light scattering from deterministic and random media with semi-soft boundaries**
Şahin S., Gbur G., Korotkova O.
Frontiers in Optics, FiO 2011, San Jose, CA, United States Of America, 16 - 20 October 2011

II. **Fluctuations in the instantaneous Stokes parameters of stochastic electromagnetic beams propagating in the turbulent atmosphere**
Şahin S., Korotkova O.
Conference on Atmospheric Propagation of Electromagnetic Waves III, San-Jose, Costa Rica, 26 - 27 January 2009, vol.7200

III. **Scattering of stochastic fields from deterministic and random collections of particles**
Şahin S., Korotkova O.
Frontiers in Optics, FiO 2008, Rochester, NY, United States Of America, 19 - 23 October 2008