

## Prof. Ahmet Ziyaettin Şahin

### Personal Information

**Email:** sahinaz@itu.edu.tr

**Web:** <https://avesis.itu.edu.tr/sahinaz>

### International Researcher IDs

ScholarID: 9uH6UJAAAAAJ

ORCID: 0000-0003-1060-6746

Publons / Web Of Science ResearcherID: AAI-1994-2021

ScopusID: 57204851625

Yoksis Researcher ID: 303847

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Professor, Istanbul Technical University, Uçak ve Uzay Bilimleri, Uçak Mühendisliği, 2021 - Continues

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

- I. **Localized droplet heating by hydrophobic pins: Influence of pin area and droplet size on heat transfer**  
Al-Sharafi A., Yilbas B. S., Sahin A. Z., Al-Qahtani H. M.  
CASE STUDIES IN THERMAL ENGINEERING, vol.27, 2021 (SCI-Expanded)
- II. **Advances in PV and PVT cooling technologies: A review**  
Hamzat A. K., Şahin A. Z., Omisanya M. I., Alhems L. M.  
Sustainable Energy Technologies and Assessments, vol.47, 2021 (SCI-Expanded)
- III. **Exergo-economic optimization of concentrated solar photovoltaic and thermoelectric hybrid generator**  
Ismaila K. G., Sahin A. Z., Yilbas B. S.  
JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, vol.145, no.3, pp.1035-1052, 2021 (SCI-Expanded)
- IV. **On the mechanism of droplet rolling and spinning in inclined hydrophobic plates in wedge with different wetting states**  
Yilbas B. S., Yakubu M., Abubakar A. A., Al-Qahtani H., Sahin A. Z., Al-Sharafi A.  
SCIENTIFIC REPORTS, vol.11, no.1, 2021 (SCI-Expanded)
- V. **Thermo-economic optimization of a hybrid photovoltaic and thermoelectric power generator using overall performance index**  
Ismaila K. G., Sahin A. Z., Yilbas B. S., Al-Sharafi A.  
JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, vol.144, no.5, pp.1815-1829, 2021 (SCI-Expanded)
- VI. **A microchannel flow with presence of micro -post arrays on channel top wall**  
Al-Sharafi A., Yilbas B. S., Al-Qahtani H., Sahin A. Z.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.164, 2021 (SCI-Expanded)

- VII. **Solution Crystallization of Polycarbonate Surfaces for Hydrophobic State: Water Droplet Dynamics and Life Cycle Assessment towards Self-Cleaning Applications**  
Yilbas B. S., Abubakar A. A., Al-Qahtani H., Shuja S. Z., Shaukat M. M., Sahin A. Z., Al-Sharafi A., Bahatab S.  
POLYMERS, vol.13, no.9, 2021 (SCI-Expanded)
- VIII. **Impacting Water Droplets Can Alleviate Dust from Slanted Hydrophobic Surfaces**  
Yilbas B. S., Abubakar A. A., Ali H., Al-Sharafi A., Sahin A. Z., SUNAR M., Al-Qahtani H.  
LANGMUIR, vol.37, no.14, pp.4355-4369, 2021 (SCI-Expanded)
- IX. **Sliding Water Droplet on Oil Impregnated Surface and Dust Particle Mitigation**  
Bahatab S., Yilbas B. S., Abubakar A. A., Hassan G., Mohammed A. S., Al-Qahtani H., Sahin A. Z., Al-Sharafi A.  
MOLECULES, vol.26, no.4, 2021 (SCI-Expanded)
- X. **Dust mitigation by rolling water droplets from hydrophobic surfaces**  
Yilbas B. S., Hassan G., Al-Qahtani H., Al-Sharafi A., Sahin A. Z.  
SURFACES AND INTERFACES, vol.22, 2021 (SCI-Expanded)
- XI. **Performance improvement of solar still by using hybrid nanofluids**  
Rabbi H. M. F., Sahin A. Z.  
JOURNAL OF THERMAL ANALYSIS AND CALORIMETRY, vol.143, no.2, pp.1345-1360, 2021 (SCI-Expanded)
- XII. **Droplet stretching between hydrophobic and hydrophilic plates: Droplet fluid heating**  
Al-Sharafi A., Yilbas B. S., Sahin A. Z., Al-Qahtani H.  
INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.120, 2021 (SCI-Expanded)
- XIII. **Avalanche effect for chemically modified dust mitigation from surfaces**  
Adukwu J. E., Yilbas B. S., Jalilov A., Al-Qahtani H., Sahin A. Z., Al-Sharafi A., Abubakar A. A., Yakubu M., Khaled M., Hassan G.  
SCIENTIFIC REPORTS, vol.11, no.1, 2021 (SCI-Expanded)
- XIV. **Energy and exergy analyses of flat plate solar collectors with nanofluids containing different size and shape of nanoparticles**  
Uddin M. A., Sahin A. Z., Yilbas B. S., Al-Sharafi A.  
INTERNATIONAL JOURNAL OF EXERGY, vol.34, no.3, pp.282-300, 2021 (SCI-Expanded)
- XV. **Experimental and numerical study of solar still with varying glass cover slopes**  
Al-Garni A. Z., Aves M., Sahin A. Z.  
DESALINATION AND WATER TREATMENT, vol.206, pp.116-124, 2020 (SCI-Expanded)
- XVI. **Minimization of Temheat Destruction Rate and Entropy Generation Rate in a 1D Transient Conductive Slab**  
Al-Hamed K. H. M., Sahin A. Z.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.45, no.11, pp.9497-9503, 2020 (SCI-Expanded)
- XVII. **Methods for the Determination of Nanofluid Optical Properties: A Review**  
Rabbi H. M. F., Sahin A. Z., Yilbas B. S., Al-Sharafi A.  
INTERNATIONAL JOURNAL OF THERMOPHYSICS, vol.42, no.1, 2020 (SCI-Expanded)
- XVIII. **Effect of use of MWCNT/oil nanofluid on the performance of solar organic Rankine cycle**  
Refiei A., Loni R., Najafi G., Sahin A. Z., Bellos E.  
ENERGY REPORTS, vol.6, pp.782-794, 2020 (SCI-Expanded)
- XIX. **Heating Analysis of a Water Droplet in Between Multi-Wall Hydrophobic Surfaces**  
Al-Sharafi A., Yilbas B. S., Sahin A. Z., Al-Qahtani H.  
JOURNAL OF THERMAL SCIENCE AND ENGINEERING APPLICATIONS, vol.12, no.5, 2020 (SCI-Expanded)
- XX. **Heating analysis of a droplet on stretchable hydrophilic surface**  
Al-Sharafi A., Yilbas B. S., Sahin A. Z., Al-Qahtani H.  
INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW, vol.85, 2020 (SCI-Expanded)
- XXI. **Dust removal from a hydrophobic surface by rolling fizzy water droplets**  
Yilbas B. S., Hassan G., Al-Qahtani H., Bahatab S., Sahin A. Z., Al-Sharafi A., Abubakar A. A.  
RSC ADVANCES, vol.10, no.34, pp.19811-19821, 2020 (SCI-Expanded)
- XXII. **A review on the performance of photovoltaic/thermoelectric hybrid generators**  
Sahin A. Z., Ismaila K. G., Yilbas B. S., Al-Sharafi A.

- INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, no.5, pp.3365-3394, 2020 (SCI-Expanded)
- XXIII. **Solar energy harvesting and a water droplet cleaning of micropost arrays surfaces**  
Yilbas B. S., Al-Sharafi A., Sahin A. Z.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, no.3, pp.2072-2083, 2020 (SCI-Expanded)
- XXIV. **Numerical Investigation of a Vertical Axis Wind Turbine Performance Characterization Using New Variable Pitch Control Scheme**  
Mohammed A. A., Sahin A. Z., Ouakad H. M.  
JOURNAL OF ENERGY RESOURCES TECHNOLOGY-TRANSACTIONS OF THE ASME, vol.142, no.3, 2020 (SCI-Expanded)
- XXV. **Parametric Study and Comparison of Aerodynamics Momentum-Based Models for Straight-Bladed Vertical Axis Wind Turbines**  
Mohammed A. A., Ouakad H. M., Sahin A. Z., Bahaidarah H. M. S.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.45, no.2, pp.729-741, 2020 (SCI-Expanded)
- XXVI. **Solar energy harvesting and self-cleaning of surfaces by an impacting water droplet**  
Hassan G., Yilbas B. S., Al-Sharafi A., Sahin A. Z., Al-Qahtani H.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.44, no.1, pp.388-401, 2020 (SCI-Expanded)
- XXVII. **Entropy generation rate analysis in pendulum cart system undergoing damped oscillation**  
Mohammed A. A., SUNAR M., Sahin A. Z.  
INTERNATIONAL JOURNAL OF EXERGY, vol.31, no.3, pp.217-231, 2020 (SCI-Expanded)
- XXVIII. **Performance enhancement of solar energy systems using nanofluids: An updated review**  
Sahin A. Z., Uddin M. A., Yilbas B. S., Al-Sharafi A.  
RENEWABLE ENERGY, vol.145, pp.1126-1148, 2020 (SCI-Expanded)
- XXIX. **Summer and winter comparison of productivity improvement in a single slope solar still by using external mirrors**  
Al-Garni A. Z., Sahin A. Z., Alfifi S.  
DESALINATION AND WATER TREATMENT, vol.168, pp.9-15, 2019 (SCI-Expanded)
- XXX. **The thermophysical properties and the stability of nanofluids containing carboxyl-functionalized graphene nano-platelets and multi-walled carbon nanotubes**  
Karami H., Papari-Zare S., Shanbedi M., Eshghi H., Dashtbozorg A., Akbari A., Mohammadian E., Heidari M., Sahin A. Z., Teng C. B.  
INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.108, 2019 (SCI-Expanded)
- XXXI. **Analytical Approximations for the Closure Time of Freezing Processes in Spheres and Cylindrical Tubes**  
Al-Hamed K. H. M., Sahin A. Z., Laoui T., Bokhari A. H.  
JOURNAL OF THERMAL SCIENCE AND ENGINEERING APPLICATIONS, vol.11, no.5, 2019 (SCI-Expanded)
- XXXII. **Stretchable hydrophobic surfaces and droplet heating**  
Al-Sharafi A., Yilbas B. S., Hassan G., Al-Qahtani H., Sahin A. Z.  
INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW, vol.78, 2019 (SCI-Expanded)
- XXXIII. **Vertical Axis Wind Turbine Aerodynamics: Summary and Review of Momentum Models**  
Mohammed A. A., Ouakad H. M., Sahin A. Z., Bahaidarah H. M. S.  
JOURNAL OF ENERGY RESOURCES TECHNOLOGY-TRANSACTIONS OF THE ASME, vol.141, no.5, 2019 (SCI-Expanded)
- XXXIV. **Energy, exergy and economic analysis for ON/OFF cycle and VFD HVAC cooling systems**  
Hamanah W. M. A., Kassas M., Sahin A. Z., El-Amin I. M.  
INTERNATIONAL JOURNAL OF EXERGY, vol.28, no.4, pp.355-379, 2019 (SCI-Expanded)
- XXXV. **Performance comparison of a single slope solar still equipped with water heater and an external fan during summer and winter**  
Al-Garni A. Z., Sahin A. Z., Abdelrahman W. G.  
DESALINATION AND WATER TREATMENT, vol.139, pp.14-22, 2019 (SCI-Expanded)
- XXXVI. **Effect of retrofitting a silver/water nanofluid-based photovoltaic/thermal (PV/T) system with a PCM-thermal battery for residential applications**

- Lari M. O., Sahin A. Z.  
RENEWABLE ENERGY, vol.122, pp.98-107, 2018 (SCI-Expanded)
- XXXVII. **Entropy generation analysis of nanofluid flow over a spherical heat source inside a channel with sudden expansion and contraction**  
Nouri D., Pasandideh-Fard M., Oboodi M. J., Mahian O., Sahin A. Z.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.116, pp.1036-1043, 2018 (SCI-Expanded)
- XXXVIII. **Internal flow and heat transfer in a droplet located on a superhydrophobic surface**  
Al-Sharafi A., Ali H., Yilbas B. S., Sahin A. Z., Al-Aqeeli N., Al-Sulaiman F., Khaled M.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.121, pp.213-227, 2017 (SCI-Expanded)
- XXXIX. **Design, performance and economic analysis of a nanofluid-based photovoltaic/thermal system for residential applications**  
Lari M. O., Sahin A. Z.  
ENERGY CONVERSION AND MANAGEMENT, vol.149, pp.467-484, 2017 (SCI-Expanded)
- XL. **Heat transfer enhancement of phase change materials for thermal energy storage applications: A critical review**  
Ibrahim N. I., Al-Sulaiman F. A., Rahman S., Yilbas B. S., Sahin A. Z.  
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.74, pp.26-50, 2017 (SCI-Expanded)
- XLI. **Nanofluids effects on the evaporation rate in a solar still equipped with a heat exchanger**  
Mahian O., Kianifar A., Heris S. Z., Wen D., Sahin A. Z., Wongwises S.  
NANO ENERGY, vol.36, pp.134-155, 2017 (SCI-Expanded)
- XLII. **A review on current status and challenges of inorganic phase change materials for thermal energy storage systems**  
Mohamed S. A., Al-Sulaiman F. A., Ibrahim N. I., Zahir M. H., Al-Ahmed A., Saidur R., Yilbas B. S., Sahin A. Z.  
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.70, pp.1072-1089, 2017 (SCI-Expanded)
- XLIII. **Flow Field Inside a Sessile Droplet on a Hydrophobic Surface in Relation to Self Cleaning Applications of Dust Particles**  
Al-Sharafi A., Yilbas B. S., Sahin A. Z., Ali H.  
JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME, vol.139, no.4, 2017 (SCI-Expanded)
- XLIV. **Techno-economic analysis and optimization of solar and wind energy systems for power generation and hydrogen production in Saudi Arabia**  
Al-Sharafi A., Sahin A. Z., Ayar T., Yilbas B. S.  
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.69, pp.33-49, 2017 (SCI-Expanded)
- XLV. **Global solar radiation and energy yield estimation from photovoltaic power plants for small loads**  
Sahin A. Z., Rehman S., Al-Sulaiman F.  
INTERNATIONAL JOURNAL OF GREEN ENERGY, vol.14, no.5, pp.490-498, 2017 (SCI-Expanded)
- XLVI. **Exergy analysis of a solar organic Rankine cycle with square prismatic cavity receiver**  
Loni R., Kasaeian A., Mahian O., Sahin A. Z., Wongwises S.  
INTERNATIONAL JOURNAL OF EXERGY, vol.22, no.2, pp.103-124, 2017 (SCI-Expanded)
- XLVII. **ENTROPY GENERATION DUE TO EXTERNAL FLUID FLOW AND HEAT TRANSFER FROM A CYLINDER BETWEEN PARALLEL PLANES**  
Melhem O. A., Sahin A. Z., Yilbas B. S.  
THERMAL SCIENCE, vol.21, no.2, pp.841-848, 2017 (SCI-Expanded)
- XLVIII. **Performance assessment of hybrid power generation systems: Economic and environmental impacts**  
Al-Sharafi A., Yilbas B. S., Sahin A. Z., Ayar T.  
ENERGY CONVERSION AND MANAGEMENT, vol.132, pp.418-431, 2017 (SCI-Expanded)
- XLIX. **Second law analysis of an automotive air conditioning system using HFO-1234yf, an environmentally friendly refrigerant**  
Golzari S., Kasaeian A., Daviran S., Mahian O., Wongwises S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF REFRIGERATION-REVUE INTERNATIONALE DU FROID, vol.73, pp.134-143, 2017 (SCI-Expanded)
- L. **Thermodynamic analysis of an organic rankine cycle using a tubular solar cavity receiver**

Loni R., Kasaeian A. B., Mahian O., Sahin A. Z.

ENERGY CONVERSION AND MANAGEMENT, vol.127, pp.494-503, 2016 (SCI-Expanded)

- LI. **Thermal and stress analyses in thermoelectric generator with tapered and rectangular pin configurations**  
Yilbas B. S., Akhtar S. S., Sahin A. Z.  
ENERGY, vol.114, pp.52-63, 2016 (SCI-Expanded)
- LII. **Heat transfer characteristics and internal fluidity of a sessile droplet on hydrophilic and hydrophobic surfaces**  
Al-Sharafi A., Yilbas B. S., Sahin A. Z., Ali H., Al-Qahtani H.  
APPLIED THERMAL ENGINEERING, vol.108, pp.628-640, 2016 (SCI-Expanded)
- LIII. **Measurement of Thermal and Electrical Properties of Multiwalled Carbon Nanotubes-Water Nanofluid**  
Al-Sharafi A., Sahin A. Z., Yilbas B. S.  
JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME, vol.138, no.7, 2016 (SCI-Expanded)
- LIV. **Overall performance assessment of a combined cycle power plant: An exergo-economic analysis**  
Sahin A. Z., Al-Sharafi A., Yilbas B. S., Khaliq A.  
ENERGY CONVERSION AND MANAGEMENT, vol.116, pp.91-100, 2016 (SCI-Expanded)
- LV. **Entropy Generation and Optimization Analysis for Gas Flow in Rectangular Ducts with Volumetric Radiation**  
Makhanlall D., Sahin A. Z., Jiang P.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.41, no.5, pp.1609-1615, 2016 (SCI-Expanded)
- LVI. **Influence of thermalcapillary and buoyant forces on flow characteristics in a droplet on hydrophobic surface**  
Al-Sharafi A., Ali H., Yilbas B. S., Sahin A. Z., Khaled M., Al-Aqeeli N., Al-Sulaiman F.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.102, pp.239-253, 2016 (SCI-Expanded)
- LVII. **Thermal configuration of a two-dimensional disc using the constructal law**  
Ayar M. Z., Ahmed A. F., Sahin A. Z., Ghouti L., Yilbas B. S.  
INTERNATIONAL JOURNAL OF EXERGY, vol.19, no.3, pp.380-394, 2016 (SCI-Expanded)
- LVIII. **A wind-solar PV hybrid power system with battery backup for water pumping in remote localities**  
Rehman S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF GREEN ENERGY, vol.13, no.11, pp.1075-1083, 2016 (SCI-Expanded)
- LIX. **Thermal characteristics of a skutterudite thermoelectric generator: influence of device pin length on efficiency and output power**  
Yilbas B. S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF EXERGY, vol.20, no.3, pp.343-360, 2016 (SCI-Expanded)
- LX. **Internal fluidity of a sessile droplet with the presence of particles on a hydrophobic surface**  
Al-Sharafi A., Yilbas B. S., Ali H., Sahin A. Z.  
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.70, no.10, pp.1118-1140, 2016 (SCI-Expanded)
- LXI. **Marangoni convection flow and heat transfer characteristics of water-CNT nanofluid droplets**  
Al-Sharafi A., Sahin A. Z., Yilbas B. S., Shuja S. Z.  
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.69, no.7, pp.763-780, 2016 (SCI-Expanded)
- LXII. **PERFORMANCE ANALYSIS OF A THERMOELECTRIC POWER GENERATOR UNDER VOLUMETRIC CONSTRAINT**  
Sahin A. Z., Yilbas B. S.  
TRANSACTIONS OF THE CANADIAN SOCIETY FOR MECHANICAL ENGINEERING, vol.40, no.1, pp.31-43, 2016 (SCI-Expanded)
- LXIII. **Overall performance index for hybrid power plants**  
Al-Sharafi A., Sahin A. Z., Yilbas B. S.  
ENERGY CONVERSION AND MANAGEMENT, vol.100, pp.103-116, 2015 (SCI-Expanded)
- LXIV. **Heat Transfer, Pressure Drop, and Entropy Generation in a Solar Collector Using SiO<sub>2</sub>/Water Nanofluids: Effects of Nanoparticle Size and pH**

- Mahian O., Kianifar A., Sahin A. Z., Wongwises S.  
JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME, vol.137, no.6, 2015 (SCI-Expanded)
- LXV. **EXPERIMENTAL STUDY OF TWO PHASE CLOSED THERMOSYPHON USING CuO/WATER NANOFLUID IN THE PRESENCE OF ELECTRIC FIELD**  
Heris S. Z., Mohammadpur F., Mahian O., Sahin A. Z.  
EXPERIMENTAL HEAT TRANSFER, vol.28, no.4, pp.328-343, 2015 (SCI-Expanded)
- LXVI. **Exergy analysis of a thermoelectric power generator: influence of bi-tapered pin geometry on device characteristics**  
Ali H., Yilbas B. S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF EXERGY, vol.16, no.1, pp.53-71, 2015 (SCI-Expanded)
- LXVII. **Performance Comparison of Diesel and Solar Photovoltaic Power Systems for Water Pumping in Saudi Arabia**  
Rehman S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF GREEN ENERGY, vol.12, no.7, pp.702-713, 2015 (SCI-Expanded)
- LXVIII. **First- and second-law analyses of thermal power plants in connection with irreversibility ratio**  
Sahin A. Z., Yilbas B. S.  
INTERNATIONAL JOURNAL OF EXERGY, vol.18, no.3, pp.356-366, 2015 (SCI-Expanded)
- LXIX. **Entropy generation rate in a mechanical system subjected to a damped oscillation**  
Sunar M., Sahin A. Z., Yilbas B. S.  
INTERNATIONAL JOURNAL OF EXERGY, vol.17, no.4, pp.401-411, 2015 (SCI-Expanded)
- LXX. **Performance analysis of a minichannel-based solar collector using different nanofluids**  
Mahian O., Kianifar A., Sahin A. Z., Wongwises S.  
ENERGY CONVERSION AND MANAGEMENT, vol.88, pp.129-138, 2014 (SCI-Expanded)
- LXXI. **Entropy generation during Al<sub>2</sub>O<sub>3</sub>/water nanofluid flow in a solar collector: Effects of tube roughness, nanoparticle size, and different thermophysical models**  
Mahian O., Kianifar A., Sahin A. Z., Wongwises S.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.78, pp.64-75, 2014 (SCI-Expanded)
- LXXII. **A model study for cyclic thermal loading and thermal performance of a thermoelectric generator**  
Al-Merbati A. S., Yilbas B. S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.38, no.10, pp.1351-1360, 2014 (SCI-Expanded)
- LXXIII. **Thermal characteristics of combined thermoelectric generator and refrigeration cycle**  
Yilbas B. S., Sahin A. Z.  
ENERGY CONVERSION AND MANAGEMENT, vol.83, pp.42-47, 2014 (SCI-Expanded)
- LXXIV. **Thermodynamic analysis of a thermoelectric power generator in relation to geometric configuration device pins**  
Ali H., Sahin A. Z., Yilbas B. S.  
ENERGY CONVERSION AND MANAGEMENT, vol.78, pp.634-640, 2014 (SCI-Expanded)
- LXXV. **A Simple Method of Determining Entropy Generation Rate in Viscous Fluid Flow Through Ducts**  
Sahin A. Z.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.39, no.2, pp.1241-1249, 2014 (SCI-Expanded)
- LXXVI. **Flexural Testing of Weld Site and HVOF Coating Characteristics Concluding Remarks**  
Yilbas B. S., Al-Zaharnah I., Sahin A. Z.  
FLEXURAL TESTING OF WELD SITE AND HVOF COATING CHARACTERISTICS, pp.157-167, 2014 (SCI-Expanded)
- LXXVII. **Flexural Testing of Weld Site and HVOF Coating Characteristics Preface**  
Yilbas B. S., Al-Zaharnah I., Sahin A. Z.  
FLEXURAL TESTING OF WELD SITE AND HVOF COATING CHARACTERISTICS, 2014 (SCI-Expanded)
- LXXVIII. **Flexural Testing of Weld Site and HVOF Coating Characteristics Introduction**  
Yilbas B. S., Al-Zaharnah I., Sahin A. Z.  
FLEXURAL TESTING OF WELD SITE AND HVOF COATING CHARACTERISTICS, pp.1-14, 2014 (SCI-Expanded)
- LXXIX. **HVOF Coating and Characterization**  
Yilbas B. S., Al-Zaharnah I., Sahin A. Z.

- FLEXURAL TESTING OF WELD SITE AND HVOF COATING CHARACTERISTICS, pp.103-156, 2014 (SCI-Expanded)
- LXXX. **Flexural Motion Due to Laser Heating Applications**  
Yilbas B. S., Al-Zaharnah I., Sahin A. Z.  
FLEXURAL TESTING OF WELD SITE AND HVOF COATING CHARACTERISTICS, pp.15-101, 2014 (SCI-Expanded)
- LXXXI. **COMPARING THE USE OF DIESEL AND WIND POWER IN PUMPING WATER IN SAUDI ARABIA**  
Rehman S., Sahin A. Z.  
ENERGY & ENVIRONMENT, vol.25, no.2, pp.369-388, 2014 (SSCI)
- LXXXII. **Second law analysis of a gravity-driven liquid film flowing along an inclined plate subjected to constant wall temperature**  
Al-Ahmed A. I., Kahraman R., Sahin A. Z., Arshad M. H.  
INTERNATIONAL JOURNAL OF EXERGY, vol.14, no.2, pp.156-178, 2014 (SCI-Expanded)
- LXXXIII. **Friction welding: Thermal and metallurgical characteristics 123**  
Sami Yilbas B., Sahin A. Z.  
SpringerBriefs in Applied Sciences and Technology, no.9783642546068, 2014 (SCI-Expanded)
- LXXXIV. **Costs Due to Entropy Generation in a Vertical Annulus Using Nanofluids and Different Thermophysical Models**  
Kianifar A., Mahian O., Sahin A. Z., Khan W. A., Wongwises S.  
CURRENT NANOSCIENCE, vol.10, no.5, pp.743-752, 2014 (SCI-Expanded)
- LXXXV. **Modeling and optimization of hybrid wind-solar-powered reverse osmosis water desalination system in Saudi Arabia**  
Mokheimer E. M. A., Sahin A. Z., Al-Sharafi A., Ali A. I.  
ENERGY CONVERSION AND MANAGEMENT, vol.75, pp.86-97, 2013 (SCI-Expanded)
- LXXXVI. **Optimization of Conical Micro-Diffusers and Micro-Nozzles Considering Entropy Generation**  
Ben-Mansour R., Sahin A. Z.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.38, no.11, pp.3161-3170, 2013 (SCI-Expanded)
- LXXXVII. **A review of entropy generation in nanofluid flow**  
Mahian O., Kianifar A., Kleinstreuer C., Al-Nimr M. A., Pop I., Sahin A. Z., Wongwises S.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.65, pp.514-532, 2013 (SCI-Expanded)
- LXXXVIII. **Irreversibility analysis of a vertical annulus using TiO<sub>2</sub>/water nanofluid with MHD flow effects**  
Mahian O., Pop I., Sahin A. Z., Oztop H. F., Wongwises S.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.64, pp.671-679, 2013 (SCI-Expanded)
- LXXXIX. **Thermodynamic Optimization of Irreversible Radiation-Driven Power Plants**  
Sahin A. Z., Yilbas B. S., Ayar T.  
JOURNAL OF ENERGY ENGINEERING, vol.139, no.3, pp.207-213, 2013 (SCI-Expanded)
- XC. **Influence of Assisting Gas Type on the Nusselt Number and the Skin Friction on Slots in Relation to Laser Cutting**  
Melhem O. A., Yilbas B. S., Shuja S. Z., Sahin A. Z.  
HEAT TRANSFER ENGINEERING, vol.34, no.10, pp.852-862, 2013 (SCI-Expanded)
- XCI. **Thermodynamic irreversibility and performance characteristics of thermoelectric power generator**  
Sahin A. Z., Yilbas B. S.  
ENERGY, vol.55, pp.899-904, 2013 (SCI-Expanded)
- XCII. **Why solidification has an S-shaped history**  
Bejan A., Lorente S., Yilbas B. S., Sahin A. Z.  
SCIENTIFIC REPORTS, vol.3, 2013 (SCI-Expanded)
- XCIII. **Special Issue: Thermodynamic Optimization, Exergy Analysis, and Constructal Design**  
Sahin A. Z., Mokheimer E. M., Bahaidarah H. M., Antar M. A., Gandhidasan P., Ben-Mansour R., Al-Dini S., Rehman S., Bejan A., Al-Nimr M. A., et al.  
ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.38, no.2, pp.219, 2013 (SCI-Expanded)
- XCIV. **The First and Second Law Efficiencies of the Laser Surface Treatment of Bronze**  
Sahin A. Z., Yilbas B. S., Ayar T., Akhtar S.  
LASERS IN ENGINEERING, vol.26, no.5-6, pp.347-365, 2013 (SCI-Expanded)

- XCV. **Estimation of operational costs due to entropy generation in a vertical annulus**  
 Mahian O., Oztop H. F., Sahin A. Z., Wongwises S.  
 INTERNATIONAL JOURNAL OF EXERGY, vol.13, no.4, pp.472-486, 2013 (SCI-Expanded)
- XCVI. **The thermoelement as thermoelectric power generator: Effect of leg geometry on the efficiency and power generation**  
 Sahin A. Z., Yilbas B. S.  
 ENERGY CONVERSION AND MANAGEMENT, vol.65, pp.26-32, 2013 (SCI-Expanded)
- XCVII. **THERMODYNAMIC ANALYSIS OF FLUID FLOW IN CHANNELS WITH WAVY SINUSOIDAL WALLS**  
 Bahaidarah H. M. S., Sahin A. Z.  
 THERMAL SCIENCE, vol.17, no.3, pp.813-822, 2013 (SCI-Expanded)
- XCVIII. **Thermodynamics and thermal stress analysis of thermoelectric power generator: Influence of pin geometry on device performance**  
 Al-Merbati A. S., Yilbas B. S., Sahin A. Z.  
 APPLIED THERMAL ENGINEERING, vol.50, no.1, pp.683-692, 2013 (SCI-Expanded)
- XCIX. **Wind power utilization for water pumping using small wind turbines in Saudi Arabia: A techno-economical review**  
 Rehman S., Sahin A. Z.  
 RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.16, no.7, pp.4470-4478, 2012 (SCI-Expanded)
- C. **The thermodynamic quantity minimized in steady heat and fluid flow processes: A control volume approach**  
 Sahin A. Z.  
 ENERGY CONVERSION AND MANAGEMENT, vol.59, pp.27-32, 2012 (SCI-Expanded)
- CI. **Constructal design of distributed energy systems: Solar power and water desalination**  
 Lorente S., Bejan A., Al-Hinai K., Sahin A. Z., Yilbas B. S.  
 INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.55, no.9-10, pp.2213-2218, 2012 (SCI-Expanded)
- CII. **The influence of operating and device parameters on the maximum efficiency and the maximum output power of thermoelectric generator**  
 Sahin A. Z., Yilbas B. S.  
 INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.36, no.1, pp.111-119, 2012 (SCI-Expanded)
- CIII. **Critical insulation thickness for maximum entropy generation**  
 Sahin A. Z.  
 INTERNATIONAL JOURNAL OF EXERGY, vol.10, no.1, pp.34-43, 2012 (SCI-Expanded)
- CIV. **Economical Feasibility of Utilizing Photovoltaics for Water Pumping in Saudi Arabia**  
 Sahin A. Z., Rehman S.  
 INTERNATIONAL JOURNAL OF PHOTOENERGY, vol.2012, 2012 (SCI-Expanded)
- CV. **The inherent optimality in steady conduction of heat**  
 Sahin A. Z.  
 International Journal of Physical Sciences, vol.6, no.35, pp.7828-7837, 2011 (SCI-Expanded)
- CVI. **Investigation of the Capacity of Underground Water Pumping Using Wind Energy in Dhahran**  
 Sahin A. Z., Bolat A., Al-Ahmari A.  
 ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING, vol.36, no.5, pp.879-889, 2011 (SCI-Expanded)
- CVII. **Investigation into topping cycle: Thermal efficiency with and without presence of thermoelectric generator**  
 Sahin A. Z., Yilbas B. S., Shuja S. Z., Momin O.  
 ENERGY, vol.36, no.7, pp.4048-4054, 2011 (SCI-Expanded)
- CVIII. **Entropy production minimization in steady state heat conduction**  
 Sahin A. Z.  
 International Journal of Physical Sciences, vol.6, no.12, pp.2826-2831, 2011 (SCI-Expanded)
- CIX. **Laser cutting of Kevlar laminates: First and second law analysis**  
 Yilbas B. S., Sahin A. Z., Chatwin C., Ayar T.  
 JOURNAL OF MECHANICAL SCIENCE AND TECHNOLOGY, vol.25, no.4, pp.855-862, 2011 (SCI-Expanded)



- CX. **The effect of size on efficiency: Power plants and vascular designs**  
Bejana A., Lorente S., Yilbas B. S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.54, no.7-8, pp.1475-1481, 2011 (SCI-Expanded)
- CXI. **Laser treatment of alumina surfaces: the first and the second law analysis**  
Yilbas B. S., Sahin A. Z., Akhtar S.  
INTERNATIONAL JOURNAL OF SURFACE SCIENCE AND ENGINEERING, vol.5, no.2-3, pp.116-130, 2011 (SCI-Expanded)
- CXII. **The natural optimality in heat and fluid flow phenomena**  
Sahin A. Z.  
INTERNATIONAL JOURNAL OF EXERGY, vol.9, no.3, pp.346-354, 2011 (SCI-Expanded)
- CXIII. **Thermoelectric device and optimum external load parameter and slenderness ratio**  
Yilbas B. S., Sahin A. Z.  
ENERGY, vol.35, no.12, pp.5380-5384, 2010 (SCI-Expanded)
- CXIV. **Second law analysis of compressible flow through a diffuser subjected to constant heat flux at wall**  
Arshad M. H., Kahraman R., Sahin A. Z., Ben-Mansour R.  
ENERGY CONVERSION AND MANAGEMENT, vol.51, no.12, pp.2808-2815, 2010 (SCI-Expanded)
- CXV. **Laser nitriding of steel surface: efficiency analysis**  
Yilbas B. S., Sahin A. Z., Ayar T., Aleem B. J. A.  
INTERNATIONAL JOURNAL OF SURFACE SCIENCE AND ENGINEERING, vol.4, no.4-6, pp.492-504, 2010 (SCI-Expanded)
- CXVI. **Second law analysis of compressible flow through a diffuser subjected to constant wall temperature**  
Arshad M. H., Kahraman R., Sahin A. Z., Mansour R. B.  
INTERNATIONAL JOURNAL OF EXERGY, vol.7, no.1, pp.110-129, 2010 (SCI-Expanded)
- CXVII. **Laser welding: the first and second law analysis**  
Sahin A. Z., Ayar T., Yilbas B. S.  
INTERNATIONAL JOURNAL OF EXERGY, vol.7, no.5, pp.535-546, 2010 (SCI-Expanded)
- CXVIII. **Laser Welding of Dissimilar Metals and Efficiency Analysis**  
Sahin A. Z., Ayar T., Yilbas B. S.  
LASERS IN ENGINEERING, vol.19, no.3-4, pp.139-152, 2010 (SCI-Expanded)
- CXIX. **Exergy analysis of process heaters**  
Sahin A. Z., Zubair S. M.  
INTERNATIONAL JOURNAL OF EXERGY, vol.7, no.4, pp.505-520, 2010 (SCI-Expanded)
- CXX. **Second law analysis of fully developed laminar flow for rectangular ducts with semicircular ends**  
Oeztop H. F., Dagtekin I., Sahin A. Z.  
INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.36, no.7, pp.725-730, 2009 (SCI-Expanded)
- CXXI. **Entropy generation in the flow system generated in between two parallel plates due to bivertical motion of the top plate**  
Sahin A. Z., Yilbas B. S.  
SADHANA-ACADEMY PROCEEDINGS IN ENGINEERING SCIENCES, vol.34, no.3, pp.455-466, 2009 (SCI-Expanded)
- CXXII. **FIRST AND SECOND LAW THERMODYNAMICS ANALYSIS OF PIPE FLOW**  
Sahin A. Z.  
FLUID MECHANICS AND PIPE FLOW: TURBULENCE, SIMULATION AND DYNAMICS, pp.317-342, 2009 (SCI-Expanded)
- CXXIII. **Efficiency analysis of laser hole cutting**  
Sahin A. Z., Ayar T., Yibas B. S.  
INTERNATIONAL JOURNAL OF EXERGY, vol.6, no.4, pp.592-604, 2009 (SCI-Expanded)
- CXXIV. **First and second law analyses of laser cutting process in relation to the end product quality**  
Sahin A. Z., Ayar T., Yilbas B. S.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.32, no.8, pp.689-697, 2008 (SCI-Expanded)
- CXXV. **Closure to "Discussion of 'Second law analysis of laminar viscous flow through a duct subjected to**

**constant wall temperature" (2007, ASME J. heat transfer, 129, p. 1302)**

Sahin A. Z.

JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME, vol.129, no.9, pp.1303, 2007 (SCI-Expanded)

**CXXVI. Similarity analysis of a nonlinear fin equation**

Pakdemirli M., Sahin A. Z.

APPLIED MATHEMATICS LETTERS, vol.19, no.4, pp.378-384, 2006 (SCI-Expanded)

**CXXVII. A similarity solution of fin equation with variable thermal conductivity and heat transfer coefficient**

Pakdemirli M., Şahin A. Z.

Mathematical and Computational Applications, vol.11, no.1, pp.25-30, 2006 (SCI-Expanded)

**CXXVIII. Entropy generation in developing laminar fluid flow through a circular pipe with variable properties**

Ben-Mansour R., Sahin A. Z.

HEAT AND MASS TRANSFER, vol.42, no.1, pp.1-11, 2005 (SCI-Expanded)

**CXXIX. Prediction of drying times for irregular shaped multi-dimensional moist solids**

Sahin A. Z., Dincer I.

JOURNAL OF FOOD ENGINEERING, vol.71, no.1, pp.119-126, 2005 (SCI-Expanded)

**CXXX. Maintaining uniform surface temperature along pipes by insulation**

Sahin A. Z., Kalyon M.

ENERGY, vol.30, no.5, pp.637-647, 2005 (SCI-Expanded)

**CXXXI. Approximate symmetries of hyperbolic heat conduction equation with temperature dependent thermal properties**

Pakdemirli M., Şahin A. Z.

Mathematical and Computational Applications, vol.10, no.1, pp.139-145, 2005 (SCI-Expanded)

**CXXXII. An analysis of entropy generation through a circular duct with different shaped longitudinal fins for laminar flow**

Dagtekin I., Oztop H., Sahin A. Z.

INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.48, no.1, pp.171-181, 2005 (SCI-Expanded)

**CXXXIII. Group classification of fin equation with variable thermal properties**

Pakdemirli M., Sahin A. Z.

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCE, vol.42, no.17-18, pp.1875-1889, 2004 (SCI-Expanded)

**CXXXIV. Entropy generation through hexagonal cross-sectional duct for constant wall temperature in laminar flow**

Oztop H., Sahin A. Z., Dagtekin I.

INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.28, no.8, pp.725-737, 2004 (SCI-Expanded)

**CXXXV. Optimal insulation of ducts in extraterrestrial applications**

Sahin A. Z.

INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.28, no.3, pp.195-203, 2004 (SCI-Expanded)

**CXXXVI. The critical radius of insulation in thermal radiation environment**

Sahin A. Z., Kalyon M.

HEAT AND MASS TRANSFER, vol.40, no.5, pp.377-382, 2004 (SCI-Expanded)

**CXXXVII. A new model for thermodynamic analysis of a drying process**

Dincer I., Sahin A. Z.

INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.47, no.4, pp.645-652, 2004 (SCI-Expanded)

**CXXXVIII. Incorporation of the Dincer number into the moisture diffusion equation**

Sahin A. Z., Dincer I.

INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.31, no.1, pp.109-119, 2004 (SCI-Expanded)

**CXXXIX. Determination of drying times for irregular two and three-dimensional objects**

Sahin A. Z., Dincer I.

JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME, vol.125, no.6, pp.1190-1193, 2003 (SCI-Expanded)

**CXL. Entropy generation in laminar fluid flow through a circular pipe**

Sahin A. Z., Ben-Mansour R.

- Entropy, vol.5, no.5 SPEC., pp.404-416, 2003 (SCI-Expanded)
- CXLI. **Design optimization of heat exchangers with high-viscosity fluids**  
Bagalagel S., Sahin A. Z.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.26, no.10, pp.867-880, 2002 (SCI-Expanded)
- CXLII. **Graphical determination of drying process and moisture transfer parameters for solids drying**  
Sahin A. Z., Dincer I.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.45, no.16, pp.3267-3273, 2002 (SCI-Expanded)
- CXLIII. **Determination of drying times for regular multi-dimensional objects**  
Sahin A. Z., Dincer I., Yilbas B., Hussain N.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.45, no.8, pp.1757-1766, 2002 (SCI-Expanded)
- CXLIV. **Development of a new moisture transfer (Bi-Re) correlation for food drying applications**  
Dincer I., Hussain M., Sahin A. Z., Yilbas B.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.45, no.8, pp.1749-1755, 2002 (SCI-Expanded)
- CXLV. **Application of optimal control theory in pipe insulation**  
Kalyon M., Sahin A. Z.  
NUMERICAL HEAT TRANSFER PART A-APPLICATIONS, vol.41, no.4, pp.391-402, 2002 (SCI-Expanded)
- CXLVI. **Development of a new drying correlation for practical applications**  
Dincer I., Hussain M., Yilbas B., Sahin A. Z.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.26, no.3, pp.245-251, 2002 (SCI-Expanded)
- CXLVII. **Eigenvalue analysis of temperature distribution in composite walls**  
Oturanc G., Sahin A. Z.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.25, no.13, pp.1189-1196, 2001 (SCI-Expanded)
- CXLVIII. **Analysis of a small horizontal axis wind turbine performance**  
Sahin A. Z., Al-Garni A., Al-Farayedhi A.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.25, no.6, pp.501-506, 2001 (SCI-Expanded)
- CXLIX. **Solar radiation availability in the northeastern region of Saudi Arabia**  
Sahin A. Z., Aksakal A., Kahraman R.  
ENERGY SOURCES, vol.22, no.10, pp.859-864, 2000 (SCI-Expanded)
- CL. **Applicability of wind-solar thermal hybrid power systems in the northeastern part of the Arabian Peninsula**  
Sahin A. Z.  
ENERGY SOURCES, vol.22, no.9, pp.845-850, 2000 (SCI-Expanded)
- CLI. **Analytical modelling of transient phase-change problems**  
Sahin A. Z., Dincer I.  
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.24, no.12, pp.1029-1039, 2000 (SCI-Expanded)
- CLII. **Effect of fouling on operational cost in pipe flow due to entropy generation**  
Sahin A. Z., Zubair S., Al-Garni A., Kahraman R.  
ENERGY CONVERSION AND MANAGEMENT, vol.41, no.14, pp.1485-1496, 2000 (SCI-Expanded)
- CLIII. **Optimum operating conditions of solar driven heat engines**  
Sahin A. Z.  
ENERGY CONVERSION AND MANAGEMENT, vol.41, no.13, pp.1335-1343, 2000 (SCI-Expanded)
- CLIV. **Flow control for an airfoil with leading-edge rotation: An experimental study**  
Al-Garni A., Al-Garni A., Ahmed S., Sahin A. Z.  
JOURNAL OF AIRCRAFT, vol.37, no.4, pp.617-622, 2000 (SCI-Expanded)
- CLV. **Entropy generation in turbulent liquid flow through a smooth duct subjected to constant wall temperature**  
Sahin A. Z.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.43, no.8, pp.1469-1478, 2000 (SCI-Expanded)
- CLVI. **Effective thermal conductivity of frost during the crystal growth period**  
Sahin A. Z.  
INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, vol.43, no.4, pp.539-553, 2000 (SCI-Expanded)

- CLVII. **Thermal analysis of antiskid aircraft brake system**  
 Sahin A. Z., Al-Garni A., Sunar M., Kahraman R.  
 TRANSACTIONS OF THE JAPAN SOCIETY FOR AERONAUTICAL AND SPACE SCIENCES, vol.42, no.138, pp.153-158, 2000 (SCI-Expanded)
- CLVIII. **The effect of variable viscosity on the entropy generation and pumping power in a laminar fluid flow through a duct subjected to constant heat flux**  
 Sahin A. Z.  
 HEAT AND MASS TRANSFER, vol.35, no.6, pp.499-506, 1999 (SCI-Expanded)
- CLIX. **Solar-energy availability in the north-eastern Arabian peninsula**  
 Sahin A. Z., Aksakal A., Sunar M.  
 APPLIED ENERGY, vol.64, no.1-4, pp.323-329, 1999 (SCI-Expanded)
- CLX. **A statistical analysis of wind energy potential at the eastern region of Saudi Arabia**  
 Sahin A. Z., Aksakal A.  
 INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.23, no.10, pp.909-917, 1999 (SCI-Expanded)
- CLXI. **Modelling of weather characteristics and wind power in the eastern part of Saudi Arabia**  
 Al-Garni A., Sahin A. Z., Al-Farayedhi A.  
 INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.23, no.9, pp.805-812, 1999 (SCI-Expanded)
- CLXII. **Reliability analysis of aeroplane brakes**  
 Al-Garni A., Sahin A. Z., Al-Ghamdi A., Al-Kaabi S.  
 QUALITY AND RELIABILITY ENGINEERING INTERNATIONAL, vol.15, no.2, pp.143-150, 1999 (SCI-Expanded)
- CLXIII. **A study of the effect of polystyrene sulfonation on the performance of terephthaloyl chloride-dihydroxydiphenyl sulfone copolymer/polystyrene system**  
 Kahraman R., Kahn K., Ali S., Hamid S., Sahin A. Z.  
 JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.7, no.6, pp.739-746, 1998 (SCI-Expanded)
- CLXIV. **The effect of viscous dissipation on the performance of a recuperator**  
 Sahin A. Z.  
 INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.22, no.13, pp.1199-1204, 1998 (SCI-Expanded)
- CLXV. **Analysis of the friction welding process in relation to the welding of copper and steel bars**  
 Sahin A. Z., Yibas B., Ahmed M., Nickel J.  
 JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.82, no.1-3, pp.127-136, 1998 (SCI-Expanded)
- CLXVI. **Effect of viscosity on effectiveness of parallel flow heat exchanger**  
 Sahin A. Z.  
 ENERGY CONVERSION AND MANAGEMENT, vol.39, no.12, pp.1233-1238, 1998 (SCI-Expanded)
- CLXVII. **Irreversibilities in various duct geometries with constant wall heat flux and laminar flow**  
 Sahin A. Z.  
 ENERGY, vol.23, no.6, pp.465-473, 1998 (SCI-Expanded)
- CLXVIII. **Wind power energy potential at the northeastern region of Saudi Arabia**  
 Sahin A. Z., Aksakal A.  
 RENEWABLE ENERGY, vol.14, no.1-4, pp.435-440, 1998 (SCI-Expanded)
- CLXIX. **Transient temperature analysis of airplane carbon composite disk brakes**  
 Sahin A. Z., Al-Garni A.  
 JOURNAL OF THERMOPHYSICS AND HEAT TRANSFER, vol.12, no.2, pp.283-285, 1998 (SCI-Expanded)
- CLXX. **A second law comparison for optimum shape of duct subjected to constant wall temperature and laminar flow**  
 Sahin A. Z.  
 HEAT AND MASS TRANSFER, vol.33, no.5-6, pp.425-430, 1998 (SCI-Expanded)
- CLXXI. **Second law analysis of laminar viscous flow through a duct subjected to constant wall temperature**  
 Sahin A. Z.  
 JOURNAL OF HEAT TRANSFER-TRANSACTIONS OF THE ASME, vol.120, no.1, pp.76-83, 1998 (SCI-Expanded)
- CLXXII. **Thermodynamic design optimization of a heat recuperator**  
 Sahin A. Z.

- INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.24, no.7, pp.1029-1038, 1997 (SCI-Expanded)
- CLXXIII. **A reliability study of Fokker F-27 airplane brakes**  
AlGarni A., Sahin A. Z., AlFarayedhi A.  
RELIABILITY ENGINEERING & SYSTEM SAFETY, vol.56, no.2, pp.143-150, 1997 (SCI-Expanded)
- CLXXIV. **Optimal insulation of structures with varying thermal conductivity**  
Sahin A. Z.  
JOURNAL OF THERMOPHYSICS AND HEAT TRANSFER, vol.11, no.2, pp.153-157, 1997 (SCI-Expanded)
- CLXXV. **Thermodynamics of laminar viscous flow through a duct subjected to constant heat flux**  
Sahin A. Z.  
ENERGY, vol.21, no.12, pp.1179-1187, 1996 (SCI-Expanded)
- CLXXVI. **Study into a small-scale water-driven domestic heat pump: Design and performance analysis**  
Yilbas B., AlGarni A., Sahin A. Z.  
ENERGY SOURCES, vol.18, no.8, pp.951-963, 1996 (SCI-Expanded)
- CLXXVII. **Direct resistance and induction heating of a slab with convective surfaces**  
Sahin A. Z.  
HEAT AND MASS TRANSFER, vol.32, no.1-2, pp.133-139, 1996 (SCI-Expanded)
- CLXXVIII. **Analysis of surface heating by induction**  
Sahin A. Z.  
JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.5, no.5, pp.657-662, 1996 (SCI-Expanded)
- CLXXIX. **Plasma nitriding of Ti-6Al-4V alloy to improve some tribological properties**  
Yilbas B., Sahin A. Z., AlGarni A., Said S., Ahmed Z., Abdulaem B., Sami M.  
SURFACE & COATINGS TECHNOLOGY, vol.80, no.3, pp.287-292, 1996 (SCI-Expanded)
- CLXXX. **Investigation into some tribological properties of plasma nitrided hot-worked tool steel AISI H11**  
Yilbas B., Sahin A. Z., Said S., Nickel J., Coban A.  
JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.5, no.2, pp.220-224, 1996 (SCI-Expanded)
- CLXXXI. **First- and second-law efficiencies for laser drilling of stainless steel**  
Yilbas B., Sami M., Kar A., Sahin A. Z.  
ENERGY, vol.21, no.3, pp.197-203, 1996 (SCI-Expanded)
- CLXXXII. **Friction welding of Al-Al, Al-steel, and steel-steel samples**  
Sahin A. Z., Yilbas B., AlGarni A.  
JOURNAL OF MATERIALS ENGINEERING AND PERFORMANCE, vol.5, no.1, pp.89-99, 1996 (SCI-Expanded)
- CLXXXIII. **Active cooling of a hypersonic plane using hydrogen, methane, oxygen and fluorine**  
AlGarni A., Sahin A. Z., Yilbas B.  
PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART G-JOURNAL OF AEROSPACE ENGINEERING, vol.210, no.G1, pp.9-17, 1996 (SCI-Expanded)
- CLXXXIV. **Investigation into the properties of friction-welded aluminium bars**  
Yilbas B., Sahin A. Z., Coban A., Aleem B.  
JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.54, no.1-4, pp.76-81, 1995 (SCI-Expanded)
- CLXXXV. **A STUDY OF THE CORROSION PROPERTIES OF TIN-COATED AND NITRIDED TI-6Al-4V**  
YILBAS B., SAHIN A. Z., AHMAD Z., ALEEM B.  
CORROSION SCIENCE, vol.37, no.10, pp.1627-1636, 1995 (SCI-Expanded)
- CLXXXVI. **LASER-HEATING MECHANISM INCLUDING EVAPORATION PROCESS INITIATING LASER DRILLING**  
YILBAS B., SAHIN A. Z., DAVIES R.  
INTERNATIONAL JOURNAL OF MACHINE TOOLS & MANUFACTURE, vol.35, no.7, pp.1047-1062, 1995 (SCI-Expanded)
- CLXXXVII. **OXYGEN ASSISTED LASER CUTTING MECHANISM - A LAMINAR BOUNDARY-LAYER APPROACH INCLUDING THE COMBUSTION PROCESS**  
YILBAS B., SAHIN A. Z.  
OPTICS AND LASER TECHNOLOGY, vol.27, no.3, pp.175-184, 1995 (SCI-Expanded)
- CLXXXVIII. **AN ANALYTICAL STUDY OF FROST NUCLEATION AND GROWTH DURING THE CRYSTAL-GROWTH**

**PERIOD**

SAHIN A. Z.

HEAT AND MASS TRANSFER, vol.30, no.5, pp.321-330, 1995 (SCI-Expanded)

**CLXXXIX. MODEL-REDUCTION IN NUMERICAL HEAT-TRANSFER PROBLEMS**

SAHIN A. Z., KAVRANOGLU D., BETTAYEB M.

APPLIED MATHEMATICS AND COMPUTATION, vol.69, no.2-3, pp.209-225, 1995 (SCI-Expanded)

**CXC. COOLING OF AEROSPACE PLANE USING LIQUID-HYDROGEN AND METHANE**

ALGARNI A., SAHIN A. Z., YILBAS B., AHMED S.

JOURNAL OF AIRCRAFT, vol.32, no.3, pp.539-546, 1995 (SCI-Expanded)

**CXCI. FRICTION WELDING OF ST-AL AND AL-CU MATERIALS**

YILBAS B., SAHIN A. Z., KAHRAMAN N., ALGARNI A.

JOURNAL OF MATERIALS PROCESSING TECHNOLOGY, vol.49, no.3-4, pp.431-443, 1995 (SCI-Expanded)

**CXCII. STUDY INTO LASER-HEATING OF TI-14AL-21NB ALLOY TO IMPROVE PROPERTIES**

YILBAS B., SAHIN A. Z., SAMI M., COBAN A., BOZDOGAN R.

OPTICS AND LASERS IN ENGINEERING, vol.23, no.1, pp.53-64, 1995 (SCI-Expanded)

**CXCIII. ANALYTICAL SOLUTIONS OF TRANSIENT HEAT-CONDUCTION IN SEMIINFINITE SOLID WITH TIME-VARYING BOUNDARY-CONDITIONS BY MEANS OF SIMILARITY TRANSFORMATION**

SAHIN A. Z.

INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.22, no.1, pp.89-97, 1995 (SCI-Expanded)

**CXCIV. LASER-HEATING MECHANISM INCLUDING EVAPORATION PROCESS**

YILBAS B., SAHIN A. Z.

INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.21, no.4, pp.509-518, 1994 (SCI-Expanded)

**CXCV. AN EXPERIMENTAL-STUDY ON THE INITIATION AND GROWTH OF FROST FORMATION ON A HORIZONTAL PLATE**

SAHIN A. Z.

EXPERIMENTAL HEAT TRANSFER, vol.7, no.2, pp.101-119, 1994 (SCI-Expanded)

**CXCVI. TRANSIENT HEAT-CONDUCTION IN A SLAB DURING DIRECT RESISTANCE AND INDUCTION-HEATING**

SAHIN A. Z., YILBAS B., ALGARNI A.

INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.21, no.2, pp.199-206, 1994 (SCI-Expanded)

**CXCVII. LASER-PULSE OPTIMIZATION FOR PRACTICAL LASER DRILLING**

YILBAS B., SAHIN A. Z.

OPTICS AND LASERS IN ENGINEERING, vol.20, no.5, pp.311-323, 1994 (SCI-Expanded)

**CXCVIII. TURBULENT BOUNDARY-LAYER APPROACH ALLOWING CHEMICAL-REACTIONS FOR CO<sub>2</sub>-LASER OXYGEN-ASSISTED CUTTING PROCESS**

YILBAS B., SAHIN A. Z.

PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART C-JOURNAL OF MECHANICAL ENGINEERING SCIENCE, vol.208, no.4, pp.275-284, 1994 (SCI-Expanded)

**CXCIX. AN APPROACH TO CONVERGENCE OF KINETIC-THEORY TO FOURIER THEORY IN RELATION TO LASER-HEATING PROCESS**

YILBAS B., SAHIN A. Z.

JAPANESE JOURNAL OF APPLIED PHYSICS PART 1-REGULAR PAPERS SHORT NOTES & REVIEW PAPERS, vol.32, no.12A, pp.5646-5651, 1993 (SCI-Expanded)

**CC. HEATING MECHANISM IN RELATION TO THE LASER MACHINING PROCESS**

YILBAS B., SAHIN A. Z.

PRAMANA-JOURNAL OF PHYSICS, vol.41, no.5, pp.453-465, 1993 (SCI-Expanded)

**CCI. TRANSIENT HEAT-CONDUCTION IN SEMI-INFINITE SOLID WITH SPATIALLY DECAYING EXPONENTIAL HEAT-GENERATION**

SAHIN A. Z.

INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, vol.19, no.3, pp.349-358, 1992 (SCI-

Expanded)

## Articles Published in Other Journals

- I. **OPERATION OF HVAC SYSTEM FOR ENERGY SAVINGS AND ECONOMIC ANALYSIS**  
Kassas M., Hamanah W. M., Al-Tamimi O., Sahin A. Z., Yilbas B. S., Ahmed C. B.  
JOURNAL OF THERMAL ENGINEERING, vol.5, no.3, pp.181-197, 2019 (ESCI)
- II. **Measurement of Similarity in Academic Contexts**  
Mahian O., Treutwein M., Estelle P., Wongwises S., Wen D., Lorenzini G., DALKILIÇ A. S., Yan W., Sahin A. Z.  
PUBLICATIONS, vol.5, no.3, 2017 (ESCI)
- III. **Introduction**  
Al-Turki U. M., Ayar T., Yilbas B. S., Sahin A. Z.  
SpringerBriefs in Applied Sciences and Technology, no.9783319062891, pp.1-4, 2014 (Scopus)
- IV. **An experimental study of a 65-degree delta wing with different pitching rates**  
Al-Garni A., Ahmed S., Sahin A. Z., Al-Garni A.  
Canadian Aeronautics and Space Journal, vol.47, no.2, pp.85-93, 2001 (Scopus)
- V. **Wind energy and its environmental impact**  
Sahin A. Z.  
International Journal of Global Energy Issues, vol.15, no.3-4, pp.343-362, 2001 (Scopus)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Modeling and simulation of entropy generation rate in pendulum cart system undergoing damped oscillation**  
Mohammed A. A., SUNAR M., Sahin A. Z.  
8th International Conference on Modeling Simulation and Applied Optimization, ICMSAO 2019, Manama, Bahrain, 15 - 17 April 2019
- II. **Coupled aerodynamic and structural optimization of multi-megawatt VAWT using MATLAB**  
Alhamaly A. S., Saeed F., Sahin A. Z.  
Wind Energy Symposium, 2018, Florida, United States Of America, 8 - 12 January 2018
- III. **Performance assessment of a solar driven combined steam and organic Rankine cycles**  
Al-Sulaiman F. A., Sahin A. Z.  
World Renewable Energy Forum, WREF 2012, Including World Renewable Energy Congress XII and Colorado Renewable Energy Society (CRES) Annual Conference, Denver, CO, United States Of America, 13 - 17 May 2012, vol.2, pp.852-858
- IV. **Laser Cutting of Ceramic and Thermal Efficiency Analysis**  
Sahin A. Z., Yilbas B. S., Ayar T.  
14th International Conference on Advances in Materials and Processing Technologies (AMPT), İstanbul, Turkey, 13 - 16 July 2011, vol.445, pp.400-401
- V. **Taguchi methodology for thermopiezoelectric control systems**  
Sunar M., Hyder S., Kahraman R., Sahin A. Z.  
2nd Trabzon International Energy and Environment Symposium, Trabzon, Turkey, 26 - 29 July 1998, pp.509-512
- VI. **Optimal insulation of ducts subjected to external thermal radiation**  
Sahin A. Z.  
2nd Trabzon International Energy and Environment Symposium, Trabzon, Turkey, 26 - 29 July 1998, pp.483-486
- VII. **Study of through-thickness notch effects on high temperature fracture behavior of a SiC/glass-ceramic composite**  
Kahraman R., Sunar M., Sahin A. Z.  
Proceedings of the 1998 39th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials

Conference and Exhibit and AIAA/ASME/AHS Adaptive Structures Forum. Part 1 (of 4), Long Beach, CA, USA, 20 - 23 April 1998, vol.1, pp.392-395

- VIII. **Cooling aerospace plane using hydrogen, ammonia and krypton**  
Al-Garni A. Z., Sahin A. Z., Al-Qutub A. M.  
32nd Thermophysics Conference, 1997, Georgia, United States Of America, 23 - 25 June 1997
- IX. **Brake reliability analysis for Fokker F-27 aeroplane**  
Al-Garni A. Z., Sahin A. Z.  
Proceedings of the 1997 38th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference. Part 4 (of 4), Kissimmee, FL, USA, 7 - 10 April 1997, vol.2, pp.956-958
- X. **Transient temperature analysis of airplane carbon composite disk brakes**  
Sahin A. Z., Al-Garni A. Z.  
32nd Thermophysics Conference, 1997, Georgia, United States Of America, 23 - 25 June 1997
- XI. **Study of droplets growth during steam flow in convergent-divergent nozzle**  
Cinar G., Yilbas B. S., Sahin A. Z.  
Proceedings of the 1995 ASME/JSME Fluids Engineering and Laser Anemometry Conference and Exhibition, Hilton Head, SC, USA, 13 - 18 August 1995, vol.226, pp.81-88
- XII. **Model governing the stall characteristics of an isolated axial compressor rotor**  
Yilbas B. S., Sahin A. Z.  
Proceedings of the 1995 ASME/JSME Fluids Engineering and Laser Anemometry Conference and Exhibition, Hilton Head, SC, USA, 13 - 18 August 1995, vol.227, pp.175-181
- XIII. **Comparison of hydrogen and methane for cooling hypersonic aerospace plane**  
Al-Garni A. Z., Sahin A. Z., Yilbas B. S., Ahmed S. A.  
Proceedings of the 1995 ASME/JSME Fluids Engineering and Laser Anemometry Conference and Exhibition, Hilton Head, SC, USA, 13 - 18 August 1995, vol.207, pp.63-70
- XIV. **Wear and corrosion properties of PVD TiN coated Ti-6Al-4V materials**  
YILBAS B., SAHIN A. Z., COBAN A.  
2nd International Meeting on Computer Methods and Experimental Measurements for Surface Treatment Effects (Surface Treatment 95), Milan, Italy, 7 - 09 June 1995, pp.129-136
- XV. **Active cooling of aerospace plane using H<sub>2</sub>, CH<sub>4</sub>, and Xe**  
Al-Garni A. Z., Sahin A. Z., Yilbas B. S., Ahmed S. A.  
20th Atmospheric Flight Mechanics Conference, 1995, Maryland, United States Of America, 7 - 10 August 1995, pp.435-442
- XVI. **Prediction and measurement of melt isotherm velocity during CO<sub>2</sub> laser cutting process**  
Yilbas B., Sahin A. Z., Sami M.  
4th UK National Conference on Heat Transfer, London, Canada, 26 - 27 September 1995, vol.1995, pp.13-18
- XVII. **A NUMERICAL-ANALYSIS OF ICE CRYSTAL-GROWTH ON COLD SURFACES**  
SAHIN A. Z.  
3rd International Conference on Advanced Computational Methods in Heat Transfer, Southampton, United Kingdom, 22 - 24 August 1994, pp.245-252
- XVIII. **HEAT TRANSFER MECHANISMS GOVERNING LASER-METAL INTERACTIONS**  
SAMI M., YILBAS B., SAHIN A. Z.  
10th International Heat Transfer Conference, Brighton, United Kingdom, 14 - 18 August 1994, pp.133-138
- XIX. **HEAT-TRANSFER MECHANISMS IN RELATION TO LASER-SURFACE MELTING OF NITRIDED STEEL**  
YILBAS B., SAMI M., SAHIN A. Z., ALGARNI A., COBAN S.  
3rd International Conference on Advanced Computational Methods in Heat Transfer, Southampton, United Kingdom, 22 - 24 August 1994, pp.201-208
- XX. **MEASUREMENT OF VARIATION IN OPTICAL-PROPERTIES OF FIBER OPTIC CABLES - PRODUCED BY HESFIBEL - SUBJECTED TO MECHANICAL BENDING**  
GORUR A., CIFTLIKLI C., YILBAS B., SAHIN A. Z.  
2nd International Symposium on Measurement Technology and Intelligent Instruments, Wuhan, China, 29 October - 05 November 1993, vol.2101, pp.774-781



## **XXI. USE OF A FIBER OPTIC PROBE DURING CO2-LASER DRILLING**

YILBAS B., SAHIN A. Z., CIFTLIKLI C.

2nd International Symposium on Measurement Technology and Intelligent Instruments, Wuhan, China, 29 October  
- 05 November 1993, vol.2101, pp.1408-1413

### **Patent**

Şahin A. Z., Yilbas B. S., Energy Conversion Efficient Thermoelectric Power Generator, Patent, CHAPTER F Mechanical engineering; Lighting; Heating; Weaponry; Destroyed Materials, The Invention Recourse Number: 12/897633 , Standard Registration, 2010

### **Metrics**

Publication: 254

Citation (WoS): 5919

Citation (Scopus): 6673

H-Index (WoS): 39

H-Index (Scopus): 42