

## Prof. ALİ KODAL

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### Education Information

Doctorate, The University of Michigan, United States Of America 1991 - 1993

Postgraduate, The University of Michigan, United States Of America 1988 - 1991

Postgraduate, The University of Michigan, United States Of America 1987 - 1988

Undergraduate, Istanbul Technical University, Turkey 1981 - 1985

### Research Areas

Engineering and Technology

### Academic Titles / Tasks

Professor, Istanbul Gelisim University, FACULTY OF ENGINEERING AND ARCHITECTURE, AERONAUTICAL ENGINEERING (ENGLISH), 2023 - Continues

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

- I. **Overall and component basis performance evaluations for turbojet engines under various optimal operating conditions**  
Fawal S., KODAL A.  
Aerospace Science and Technology, vol.117, 2021 (SCI-Expanded)
- II. **Comparative performance analysis of various optimization functions for an irreversible Brayton cycle applicable to turbojet engines**  
Fawal S., KODAL A.  
Energy Conversion and Management, vol.199, 2019 (SCI-Expanded)
- III. **A comparative study of turbulent velocity fields in an internal combustion engine with shrouded valve and flat/bowl piston configurations**  
ERDİL A., KODAL A.  
Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science, vol.221, no.12, pp.1597-1607, 2007 (SCI-Expanded)
- IV. **Optimization of a dual cycle cogeneration system based on a new exergetic performance criterion**

- Ust Y., Sahin B., Kodal A.  
APPLIED ENERGY, vol.84, pp.1079-1091, 2007 (SCI-Expanded)
- V. **Performance analysis of an irreversible Brayton heat engine based on ecological coefficient of performance criterion**  
Ust Y., Sahin B., Kodal A.  
INTERNATIONAL JOURNAL OF THERMAL SCIENCES, vol.45, pp.94-101, 2006 (SCI-Expanded)
- VI. **Ecological coefficient of performance analysis and optimization of an irreversible regenerative-Brayton heat engine**  
Ust Y., Sahin B., Kodal A., Akcay I. H.  
APPLIED ENERGY, vol.83, pp.558-572, 2006 (SCI-Expanded)
- VII. **Turbulence Filter and POD Analysis for Velocity Fields in Lifted CH<sub>4</sub>-Air Diffusion Flames**  
KODAL A., Watson K. A., Roberts W. L., Lyons K. M.  
Flow, Turbulence and Combustion, vol.70, no.1-4, pp.21-41, 2003 (SCI-Expanded)
- VIII. **Finite size thermoeconomic optimization for irreversible heat engines**  
Kodal A., Sahin B.  
International Journal of Thermal Sciences, vol.42, no.8, pp.777-782, 2003 (SCI-Expanded)
- IX. **Thermoeconomic optimization for irreversible absorption refrigerators and heat pumps**  
Kodal A., Sahin B., Ekmekci I., Yilmaz T.  
ENERGY CONVERSION AND MANAGEMENT, vol.44, pp.109-123, 2003 (SCI-Expanded)
- X. **Decomposition of turbulent velocity fields in an SI engine**  
ERDİL A., KODAL A., AYDIN K.  
Flow, Turbulence and Combustion, vol.68, no.2, pp.91-110, 2002 (SCI-Expanded)
- XI. **Thermoeconomic optimization of a two stage combined refrigeration system: a finite-time approach**  
Sahin B., Kodal A.  
INTERNATIONAL JOURNAL OF REFRIGERATION, vol.25, pp.872-877, 2002 (SCI-Expanded)
- XII. **Performance optimization of a new combined power cycle based on power density analysis of the dual cycle**  
Sahin B., Kesgin U., Kodal A., Vardar N.  
ENERGY CONVERSION AND MANAGEMENT, vol.43, pp.2019-2031, 2002 (SCI-Expanded)
- XIII. **Performance analysis of an endoreversible heat engine based on a new thermoeconomic optimization criterion**  
Sahin B., Kodal A.  
Energy Conversion and Management, vol.42, no.9, pp.1085-1093, 2001 (SCI-Expanded)
- XIV. **Optimal performance characteristics of a two-stage irreversible combined refrigeration system under maximum cooling load per unit total cost conditions**  
Sahin B., Kodal A., Koyun A.  
ENERGY CONVERSION AND MANAGEMENT, vol.42, pp.451-465, 2001 (SCI-Expanded)
- XV. **Performance analysis of two stage combined heat pump system based on thermoeconomic optimization criterion**  
Kodal A., Sahin B., Oktem A. S.  
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- XVI. **Effects of internal irreversibility and heat leakage on the finite time thermoeconomic performance of refrigerators and heat pumps**  
Kodal A., Sahin B., Yilmaz T.  
ENERGY CONVERSION AND MANAGEMENT, vol.41, pp.607-619, 2000 (SCI-Expanded)
- XVII. **An investigation of forced structures in turbulent jet flows**  
YILMAZ T., KODAL A.  
Experiments in Fluids, vol.29, no.6-6, pp.564-572, 2000 (SCI-Expanded)
- XVIII. **A comparative performance analysis of irreversible Carnot heat engines under maximum power density and maximum power conditions**  
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- ENERGY CONVERSION AND MANAGEMENT, vol.41, pp.235-248, 2000 (SCI-Expanded)
- XIX. **An analysis on coaxial jet flows using different decomposition techniques**  
Yilmaz T., Kodal A.  
JOURNAL OF FLUIDS AND STRUCTURES, vol.14, pp.359-373, 2000 (SCI-Expanded)
- XX. **Maximum power density analysis for irreversible combined Carnot cycles**  
KODAL A.  
Journal of Physics D: Applied Physics, vol.32, no.22, pp.2958-2963, 1999 (SCI-Expanded)
- XXI. **Optimal performance analysis of irreversible regenerative MHD power cycles**  
Sahin B., Kodal A., Oktem A. S.  
Journal of Physics D: Applied Physics, vol.32, no.15, pp.1832-1841, 1999 (SCI-Expanded)
- XXII. **Finite time thermoeconomic optimization for endoreversible refrigerators and heat pumps**  
Sahin B., Kodal A.  
ENERGY CONVERSION AND MANAGEMENT, vol.40, pp.951-960, 1999 (SCI-Expanded)
- XXIII. **A comparative performance analysis of irreversible regenerative reheating Joule-Brayton engines under maximum power density and maximum power conditions**  
Sahin B., Kodal A., Kaya S. S.  
JOURNAL OF PHYSICS D - APPLIED PHYSICS, vol.31, pp.2125-2131, 1998 (SCI-Expanded)
- XXIV. **Exergy optimization for an endoreversible cogeneration cycle**  
Şahin B., Kodal A., Ekmekçi I., Yilmaz T.  
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## Articles Published in Other Journals

- I. **Comparative performance evaluations of various optimization functions for irreversible Otto cycles**  
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- II. **NUMERICAL ANALYSES IN SIMILAR CONDITONS WITH COMBUSTION CHAMBERS OF RAMJET ENGINES.**  
Yavuz M. A., Kodal A.  
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- III. **Ecological coefficient of performance (ECOP) optimization for generalized irreversible Carnot heat engines**  
Üst Y., Şahin B., Kodal A.  
Journal of the Energy Institute, vol.78, pp.145-151, 2005 (Scopus)
- IV. **Performance analysis of a two-stage irreversible heat pump under maximum heating load per unit total cost conditions**  
Kodal A., Sahin B., Erdil A.  
INTERNATIONAL JOURNAL OF EXERGY, vol.2, pp.159-166, 2002 (Peer-Reviewed Journal)
- V. **Maximum power density for an endoreversible Carnot heat engine**  
Şahin B., Kodal A., Yavuz H.  
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- VI. **A performance analysis for MHD power cycles operating at maximum power density**  
Sahin B., Kodal A., Yavuz H.  
JOURNAL OF PHYSICS D - APPLIED PHYSICS, vol.29, pp.1473-1475, 1996 (Scopus)
- VII. **Efficiency of a joule-brayton engine at maximum power density**  
Sahin B., Kodal A., Yavuz H.  
Journal of Physics D: Applied Physics, vol.28, no.7, pp.1309-1313, 1995 (Scopus)
- VIII. **Steady-state thermodynamic analysis of a combined Carnot cycle with internal irreversibility**  
Şahin B., Kodal A.

ENERGY, vol.20, no.12, pp.1285-1289, 1995 (Scopus)

**IX. An adaptive turbulence filter for decomposition of organized turbulent flows**

Brereton G., KODAL A.

Physics of Fluids, vol.6, no.5, pp.1775-1786, 1994 (Scopus)

**X. A frequency-domain filtering technique for triple decomposition of unsteady turbulent flow**

Brereton G., KODAL A.

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