

**OPTIMIZATION USING
EXERGY-BASED METHODS AND
COMPUTATIONAL FLUID DYNAMICS**

**Editors:
George Tsatsaronis
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FOREWORD

The cost-effective and environmentally responsible supply and use of energy will become increasingly important in the coming years. Future developments will have to focus more on reducing the per capita use of fossil fuels, building cleaner energy conversion plants, and increasing the cost effectiveness of environmentally friendly technologies. Exergy-based methods and computational fluid dynamics are important tools in assisting these developments.

The purpose of this conference was to provide a forum for presenting and discussing major results obtained (a) at the Marie Curie Program INSPIRE supported by the European Union, (b) in various projects supported by the US Air Force, and (c) during other research activities in the area of improving the design and operation of various systems using exergy - based methods and computational fluid dynamics. The conference papers cover a relatively wide range of topics dealing with the improvement of energy conversion processes, flight systems, and of energy use. Applications include power plants, combustion systems, flight systems, and chemically reacting systems.

We would like to thank very much all persons and organizations who have contributed to this conference: The authors, the sponsors, the support staff, the other members of the organizing committee, and the Technische Universität Berlin.

George Tsatsaronis
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With publishing "Optimization Using Exergy-based Methods and Computational Fluid Dynamics" - the twelfth book in this series was released. At least one further book concerning "Advanced Heat Transfer" is expected to be published in 2010.

Already published:

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11. Nowak, A. J. (Editor): Numerical Methody in Heat Transfer, Papierflieger-Verlag, Clausthal-Zellerfeld 2009, ISBN 978-3-86948-049-7.

CONTENTS

Foreword	iii
Scientific committee	iv
International Studies in Science and Engineering	v
Exergy-Based Methods	
Advances in exergy-based methods for improving energy conversion systems G.Tsatsaronis, T.Morosuk	1
Evaluation of energy conversion systems including CO₂ capture using exergoeconomic and exergoenvironmental analyses F.Petrakopoulou, G.Tsatsaronis, A.Boyano, T.Morosuk	11
Environmental externalities due to a pulverized coal power plant in Europe and their effect on the cost of electricity L. Czarnowska, C.A. Frangopoulos	21
Exergetic fluid dynamics of a building ventilation solar chimney A.J. Gutierrez-Trashorras, M.J. Suárez-López, A.M. Blanco-Marigorta, E. Blanco-Marigorta	33
Exergetic efficiency in stationary oil producing units M.V. da Silva Neves, A. MacDowell de Figueiredo	39
Exergoeconomic and exergoenvironmental analyses of hydrogen production from natural gas using steam methane reforming A. Boyano, T. Morosuk, G. Tsatsaronis	45
Comparative investigation of exergoenvironmental analysis using two different environmental impact assessment methods on a case study of electricity production J. Buchgeister	55
Optimization of horizontal fluidized drier using exergy-based performance index A. Poświata	63
Combustion	
Modelling of a coal combustion in a fixed bed in a small boiler R. Buczyński, A. Szlęk, R. Weber	71

An advanced model of pulverised coal combustion for CFD simulations J.U. Wrobel, M. Mancini, R. Weber, R. Löffler	77
Modelling methane combustion in the high temperature furnaces with recirculation flue gases I. Gil	85
Simplified method of solid fuels characterization and its application for modelling of fixed bed combustion R. Nosek, A. Szlek, J. Jandacka	89
Application of the genetic algorithm for heptane mechanism reduction and optimisation of its kinetic parameters B.W. Wójtowicz, K.J. Hughes, D.B. Ingham, M. Pourkashanian	97
Measurements of kinetic parameters of coal char and biomass char A. Katelbach-Woźniak, M. Widuch-Gottschling, A. Oksanen, A. Szłek	109
Advanced solid fuel characterisation K Zajac, T. Kupka, R. Weber	115
Ecological evaluation of the pulverized coal combustion in HTAC technology N. Schaffel-Mancini, M. Mancini, A. Szlek, R. Weber	123
Simulation and validation of coal combustion models for large scale industrial boilers V.D.Jothiprakasam, R. Biatecki, G. Wecel	131
 Flight Systems	
Study of fighter aircraft synthesis/design based on large-scale optimization and exergy analysis K.W. Smith, M.R. von Spakovsky	143
The characterization of aerospace vehicle performance using exergy D. Riggins, D.J. Moorhouse, J.A. Camberos	151
Parallel coordinates for energy-exergy space: Power plant J.H. Doty, J.A. Camberos	161
Parallel coordinates for energy-exergy space: Aerospace application J.H. Doty, J.A. Camberos	167

Energy Systems

Review of methods to optimize for system-level energy efficiency D. Moorhouse, D.M. Pratt	175
A new thermal equation of state for the European gas system R. Dzicher	181
Optimization of a multi-deck food display cabinet for supermarkets M. Sosnowski, L.C. Wrobel	187
Proper orthogonal decomposition employed to evaluate absorption coefficient of CO₂ and H₂O G. Węcel, Z. Ostrowski, R. Białecki	195
Pseudo neural network-based diagnostic system for two-phase annular flow in nuclear power plants M. Alamaniotis, M. Gioutsos, R. Gao, L.H. Tsoukalas	203
Different strategies of CO₂ capture from coal fired power plants: Effects on performance and environmental impact R. Strube, G. Manfrida	209
Proposal of heat exchanger in micro cogeneration unit, configuration with biomass combustion J. Hužvár, J. Jandačka, A. Oksanen	219
Integrated analysis of hydrogen production focused on water splitting thermochemical cycles M. Smitková, J. Ricchardi, F. Janíček	225

Materials Properties

Meshless solutions of temperature fields for use in dendritic growth simulations G.M. Yao, C.S. Chen, M. Jelen, B. Šarler	231
Modelling of grain growth processes by the conventional and a novel cellular automata method A.Z. Lorbiecka, B. Šarler	243