A Cape Open Compliant Simulation Module For An Ammonia

Results of the IMPROVE Project
37th European Symposium of the Working Party on Computer-Aided Process Engineering
The Multi-Agent Transport Simulation MATSim
18th European Symposium on Computer Aided Process Engineering
Computer Aided Process and Product Engineering
Impact of Advances in Computing and Communications Technologies on Chemical Science and Technology
Report of a Workshop
17th European Symposium on Computed Aided Process Engineering
Ecosystems and Sustainable Development VIII
Conceptual Modeling ER'99
Software Architectures and Tools for Computer Aided Process Engineering
Analysis, Synthesis, and Design of Chemical Processes
Principles, Applications and Rules of Thumb
26th European Symposium on Computer Aided Process Engineering
European Symposium on Computer Aided Process Engineering - 12
Report of a Workshop
The ChemSep Book
Package Equivalent Reactor Networks as Reduced Order Models for Use with CAPE-OPEN Compliant Simulation
Powder and Particle
ESCAPE-19: June 14-17, 2009, Cracow, Poland
18th International Conference on Conceptual Modeling Paris, France, November 15-18, 1999 Proceedings
Proceedings of the Seventh International Conference on the Foundations of Computer-Aided Process Design
Oil & Gas Science and Technology
Learn Aspen Plus in 24 Hours
European Symposium on Computer Aided Process Engineering - 11
E-Commerce, E-Business, and E-Government
Handbook of Control Room Design and Ergonomics
Thermal Engineering in Power Systems
European Symposium on Computer Aided Process Engineering - 14
Chemical Engineering Progress
Collaborative and Distributed Chemical Engineering. From Understanding to Substantial Design Process Support
European Symposium on Computer Aided Process Engineering - 10
11th European Symposium of the Working Party on Computer Aided Process Engineering
Revue de L'Institut Français Du Pétrole
Process Heat Transfer
Kona
CAPE
A Perspective for the Future, Second Edition

YARELI SKYLAR

Results of the IMPROVE Project McGraw Hill Professional
The biennial series of ECOSUD conferences, originating from the work of the late Nobel laureate, Ilya Prigogine, challenges us to seeking to integrate thermodynamics, ecology and economics into “ecodynamics.” It is not only a platform to present novel research related to ecological problems from all over the world, but it also gives opportunities for new emergent ideas in science arising from the cross fertilization of different disciplines, including mathematical models and eco-informatics, evolutionary thermodynamics and biodiversity, structures in ecosystems modelling and landscapes to mention but a few. This book contains papers presented at the the Eighth International Conference in the well-established conference series on Ecosystems and Sustainable Development. Conference topics include : Greenhouse Gas Issues; Ecosystems Modelling; Mathematical and System Modelling; Natural Resources Management; Environmental Indicators; Sustainability Studies; Recovery of Damaged Areas; Energy and the Environment; Socio Economic Factors; Soil Contamination; Waste Management; Water Resources; Environmental Management; and Modelling of alternative futures.
37th European Symposium of the Working Party on Computer-Aided Process Engineering 18th European Symposium on Computer Aided Process Engineering
Geothermal energy is the thermal energy generated and stored in the Earth's core, mantle, and crust. Geothermal technologies are used to generate electricity and to heat and cool buildings. To develop accurate models for heat and mass transfer applications involving fluid flow in geothermal applications or reservoir engineering and petroleum industries, a basic knowledge of the rheological and transport properties of the materials involved (drilling fluid, rock properties, etc.)—especially in high-temperature and high-pressure environments—are needed. This Special Issue considers all aspects of fluid flow and heat transfer in geothermal applications, including the ground heat exchanger, conduction and convection in porous media. The emphasis here is on mathematical and computational aspects of fluid flow in conventional and unconventional reservoirs, geothermal engineering, fluid flow, and heat transfer in drilling engineering and enhanced oil recovery (hydraulic fracturing, CO2 injection, etc.) applications.
The Multi-Agent Transport Simulation MATSim Elsevier
27th European Symposium on Computer Aided Process Engineering, Volume 40 contains the papers presented at the 27th European Society of Computer-Aided Process Engineering (ESCAPE) event held in Barcelona, October 1-5, 2017. It is a valuable resource for chemical engineers, chemical process engineers, researchers in industry and academia, students, and consultants for chemical industries. Presents findings and discussions from the 27th European Society of Computer-Aided Process Engineering (ESCAPE) event
18th European Symposium on Computer Aided Process Engineering BoD – Books on Demand
The 19th European Symposium on Computer Aided Process Engineering contains papers presented at the 19th European Symposium of Computer Aided Process Engineering (ESCAPE 19) held in Cracow, Poland, June 14-17, 2009. The ESCAPE series serves as a forum for scientists and engineers from academia and industry to discuss progress achieved in the area of CAPE. * CD-ROM that accompanies the book contains all research papers and contributions * International in scope with guest speeches and keynote talks from leaders in science and industry * Presents papers covering the latest research, key top areas and developments in computer aided process engineering (CAPE)
Computer Aided Process and Product Engineering WIT Press
This comprehensive work shows how to design and develop innovative, optimal and sustainable chemical processes by applying the principles of process systems engineering, leading to integrated sustainable processes with 'green' attributes. Generic systematic methods are employed, supported by intensive use of computer simulation as a powerful tool for mastering the complexity of physical models. New to the second edition are chapters on product design and batch processes with applications in specialty chemicals, process intensification methods for designing compact equipment with high energetic efficiency, plantwide control for managing the key factors affecting the plant dynamics and operation, health, safety and environment issues, as well as sustainability analysis for achieving high environmental performance. All chapters are completely rewritten or have been revised. This new edition is suitable as teaching material for Chemical Process and Product Design courses for graduate MSc students, being compatible with academic requirements world-wide. The inclusion of the newest design methods will be of great value to professional chemical engineers. Systematic approach to developing innovative and sustainable chemical processes Presents generic principles of process simulation for analysis, creation and assessment Emphasis on sustainable development for the future of process industries
Impact of Advances in Computing and Communications Technologies on Chemical Science and Technology WIT Press
26th European Symposium on Computer Aided Process Engineering contains the papers presented at the 26th European Society of Computer-Aided Process Engineering (ESCAPE) Event held at Portorož Slovenia, from June 12th to June 15th, 2016. Themes discussed at the conference include Process-product Synthesis, Design and Integration, Modelling, Numerical analysis, Simulation and Optimization, Process Operations and Control and Education in CAPE/PSE. Presents findings and discussions from the 26th European Society of Computer-Aided Process Engineering (ESCAPE) Event
Report of a Workshop National Academies Press
I3E 2001 is the first in a series of conferences on e-commerce, e-business, and- government organised by the three IFIP committees TC6, TC8, and TC11. It provides a forum, where users, engineers, and scientists from academia, industry, and government can present their latest findings in e-commerce, e-business, and- government applications and the underlying technology to support those applications. The conference comprises a main track and mini tracks dedicated to special topics. The papers presented in the main track were rigorously refereed and selected by the

International Programme Committee of the conference. Thematically they were grouped in the following sessions: – Sessions on security and trust, comprising nine papers referring to both trust and security in general as well as presenting specific concepts for enhancing trust in the digital society. – Session on inter-organisational transactions, covering papers related to auditing of inter-organizational trade procedures, cross-organizational workflow and transactions in Business to Business platforms. – Session on virtual enterprises, encompassing papers describing innovative approaches for creating virtual enterprises as well as describing examples of virtual enterprises in specific industries. – Session on online communities containing three papers, which provide case studies of specific online communities and various concepts on how companies can build and harness the potential of online communities. – Sessions on strategies and business models with papers describing specific business models as well as general overviews of specific approaches for E- Strategy formulation.

17th European Symposium on Computed Aided Process Engineering Elsevier

The 10th International Symposium on Process Systems Engineering, PSE'09, will be held in Salvador-Bahia, Brazil on August 16-20, 2009. The special focus of PSE 2009 is Sustainability, Energy and Engineering. PSE 2009 is the tenth in the triennial series of international symposia on process systems engineering initiated in 1982. The meeting is brings together the worldwide PSE community of researchers and practitioners who are involved in the creation and application of computing-based methodologies for planning, design, operation, control and maintenance of chemical and petrochemical process industries. PSE'09 will look at how the PSE methods and tools can support sustainable resource systems and emerging technologies in the areas of green engineering: environmentally conscious design of industrial processes. PSE methods and tools support: - sustainable resource systems - emerging technologies in the areas of green engineering - environmentally conscious design of industrial processes

Ecosystems and Sustainable Development VIII Elsevier

The idea of editing a book on modern software architectures and tools for CAPE (Computer Aided Process Engineering) came about when the editors of this volume realized that existing titles relating to CAPE did not include references to the design and development of CAPE software. Scientific software is needed to solve CAPE related problems by industry/academia for research and development, for education and training and much more. There are increasing demands for CAPE software to be versatile, flexible, efficient, and reliable. This means that the role of software architecture is also gaining increasing importance. Software architecture needs to reconcile the objectives of the software; the framework defined by the CAPE methods; the computational algorithms; and the user needs and tools (other software) that help to develop the CAPE software. The object of this book is to bring to the reader, the software side of the story with respect to computer aided process engineering.

Conceptual Modeling ER'99 Elsevier

Process Heat Transfer is a reference on the design and implementation of industrial heat exchangers. It provides the background needed to understand and master the commercial software packages used by professional engineers in the design and analysis of heat exchangers. This book focuses on types of heat exchangers most widely used by industry: shell-and-tube exchangers (including condensers, reboilers and vaporizers), air-cooled heat exchangers and double-pipe (hairpin) exchangers. It provides a substantial introduction to the design of heat exchanger networks using pinch technology, the most efficient strategy used to achieve optimal recovery of heat in industrial processes. Utilizes leading commercial software. Get expert HTRI Xchanger Suite guidance, tips and tricks previously available via high cost professional training sessions. Details the development of initial configuration for a heat exchanger and how to systematically modify it to obtain an efficient final design. Abundant case studies and rules of thumb, along with copious software examples, provide a complete library of reference designs and heuristics for readers to base their own designs on.

Software Architectures and Tools for Computer Aided Process Engineering Elsevier

In this report is described the work effort to develop and demonstrate a software framework to support advanced process simulations to evaluate the performance of advanced power systems. Integrated into the framework are a broad range of models, analysis tools, and visualization methods that can be used for the plant evaluation. The framework provides a tightly integrated problem-solving environment, with plug-and-play functionality, and includes a hierarchy of models, ranging from fast running process models to detailed reacting CFD models. The framework places no inherent limitations on the type of physics that can be modeled, numerical techniques, or programming languages used to implement the equipment models, or the type or amount of data that can be exchanged between models. Tools are provided to analyze simulation results at multiple levels of detail, ranging from simple tabular outputs to advanced solution visualization methods. All models and tools communicate in a seamless manner. The framework can be coupled to other software frameworks that provide different modeling capabilities. Three software frameworks were developed during the course of the project. The first framework focused on simulating the performance of the DOE Low Emissions Boiler System Proof of Concept facility, an advanced pulverized-coal combustion-based power plant. The second framework targeted simulating the performance of an Integrated coal Gasification Combined Cycle - Fuel Cell Turbine (IGCC-FCT) plant configuration. The coal gasifier models included both CFD and process models for the commercially dominant systems. Interfacing models to the framework was performed using VES-Open, and tests were performed to demonstrate interfacing CAPE-Open compliant models to the framework. The IGCC-FCT framework was subsequently extended to support Virtual Engineering concepts in which plant configurations can be constructed and interrogated in a three-dimensional, user-centered, interactive, immersive environment. The Virtual Engineering Framework (VEF), in effect a prototype framework, was developed through close collaboration with NETL supported research teams from Iowa State University Virtual Reality Applications Center (ISU-VRAC) and Carnegie Mellon University (CMU). The VEF is open source, compatible across systems ranging from inexpensive desktop PCs to large-scale, immersive facilities and provides support for heterogeneous distributed computing of plant simulations. The ability to compute plant economics through an interface that coupled the CMU IECM tool to the VEF was demonstrated, and the ability to couple the VEF to Aspen Plus, a commercial flowsheet modeling tool, was demonstrated. Models were interfaced to the framework using VES-Open. Tests were performed for interfacing CAPE-Open-compliant models to the framework. Where available, the developed models and plant simulations have been benchmarked

against data from the open literature. The VEF has been installed at NETL. The VEF provides simulation capabilities not available in commercial simulation tools. It provides DOE engineers, scientists, and decision makers with a flexible and extensible simulation system that can be used to reduce the time, technical risk, and cost to develop the next generation of advanced, coal-fired power systems that will have low emissions and high efficiency. Furthermore, the VEF provides a common simulation system that NETL can use to help manage Advanced Power Systems Research projects, including both combustion- and gasification-based technologies.

Analysis, Synthesis, and Design of Chemical Processes Elsevier

Research and development in thermal engineering for power systems are of significant importance to many scientists who are engaged in research and design work in power-related industries and laboratories. This book focuses on variety of research areas including Components of Compressor and Turbines that are used for both electric power systems and aero engines, Fuel Cells, Energy Conversion, and Energy Reuse and Recycling Systems. To be competitive in today's market, power systems need to reduce the operating costs, increase capacity factors and deal with many other tough issues. Heat Transfer and fluid flow issues are of great significance and it is likely that a state-of-the-art edited book with reference to power systems will make a contribution for design and R&D engineers and the development towards sustainable energy systems.

Principles, Applications and Rules of Thumb Elsevier

The Chemical Sciences Roundtable provides a forum for discussing chemically related issues affecting government, industry and government. The goal is to strengthen the chemical sciences by foster communication among all the important stakeholders. At a recent Roundtable meeting, information technology was identified as an issue of increasing importance to all sectors of the chemical enterprise. This book is the result of a workshop convened to explore this topic.

26th European Symposium on Computer Aided Process Engineering Springer Science & Business Media

IMPROVE stands for "Information Technology Support for Collaborative and Distributed Design Processes in Chemical Engineering" and is a joint project of research institutions. This volume summarizes the results after nine years of cooperative research work.

European Symposium on Computer Aided Process Engineering - 12 Elsevier

The 17th European Symposium on Computed Aided Process Engineering contains papers presented at the 17th European Symposium of Computer Aided Process Engineering (ESCAPE 17) held in Bucharest, Romania, from 27-30 May 2007. The ESCAPE series serves as a forum for scientists and engineers from academia and industry to discuss progress achieved in the area of Computer Aided Process Engineering (CAPE). The main goal was to emphasize the continuity in research of innovative concepts and systematic design methods as well the diversity of applications emerged from the demands of sustainable development. ESCAPE 17 highlights the progresss software technology needed for implementing simulation based tools. The symposium is based on 5 themes and 27 topics, following the main trends in CAPE area: Modelling, Process and Products Design, Optimisation and Optimal Control and Operation, System Biology and Biological Processes, Process Integration and Sustainable Development. Participants from 50 countries attended and invited speakers presented 5 plenary lectures tackling broad subjects and 10 keynote lectures. Satellite events added a plus to the scientific dimension to this symposium. * All contributions are included on the CD-ROM attached to the book * Attendance from 50 countries with invited speakers presenting 5 plenary lectures tackling broad subjects and 10 keynote lectures

Report of a Workshop CRC Press

While the PSE community continues its focus on understanding, synthesizing, modeling, designing, simulating, analyzing, diagnosing, operating, controlling, managing, and optimizing a host of chemical and related industries using the systems approach, the boundaries of PSE research have expanded considerably over the years. While early PSE research was largely concerned with individual units and plants, the current research spans wide ranges of scales in size (molecules to processing units to plants to global multinational enterprises to global supply chain networks; biological cells to ecological webs) and time (instantaneous molecular interactions to months of plant operation to years of strategic planning). The changes and challenges brought about by increasing globalization and the the common global issues of energy, sustainability, and environment provide the motivation for the theme of PSE2012: Process Systems Engineering and Decision Support for the Flat World. Each theme includes an invited chapter based on the plenary presentation by an eminent academic or industrial researcher Reports on the state-of-the-art advances in the various fields of process systems engineering Addresses common global problems and the research being done to solve them

The ChemSep Book Elsevier

This book contains 182 papers presented at the 12th Symposium of Computer Aided Process Engineering (ESCAPE-12), held in The Hague, The Netherlands, May 26-29, 2002. The objective of ESCAPE-12 is to highlight advances made in the development and use of computing methodologies and information technology in the area of Computer Aided Process Engineering and Process Systems Engineering. The Symposium addressed six themes: (1) Integrated Product&Process Design; (2) Process Synthesis & Plant Design; (3) Process Dynamics & Control; (4) Manufacturing & Process Operations; (5) Computational Technologies; (6) Sustainable CAPE Education and Careers for Chemical Engineers. These themes cover the traditional core activities of CAPE, and also some wider conceptual perspectives, such as the increasing interplay between product and process design arising from the often complex internal structures of modern products; the integration of production chains creating the network structure of the process industry and optimization over life span dimensions, taking sustainability as the ultimate driver.

Package Equivalent Reactor Networks as Reduced Order Models for Use with CAPE-OPEN Compliant Simulation Elsevier

The MATSim (Multi-Agent Transport Simulation) software project was started around 2006 with the goal of generating traffic and congestion patterns by following individual synthetic travelers through their daily or weekly activity programme. It has since then evolved from a collection of stand-alone C++ programs to an integrated Java-based framework which is publicly hosted, open-source available, automatically regression tested. It is currently used by about 40 groups throughout the world. This book takes stock of the current status. The first part of the book gives an introduction to the most important concepts, with the intention of enabling a potential user to set up and run basic simulations. The second part of the book describes how the basic functionality can be extended, for

example by adding schedule-based public transit, electric or autonomous cars, paratransit, or within-day replanning. For each extension, the text provides pointers to the additional documentation and to the code base. It is also discussed how people with appropriate Java programming skills can write their own extensions, and plug them into the MATSim core. The project has started from the basic idea that traffic is a consequence of human behavior, and thus humans and their behavior should be the starting point of all modelling, and with the intuition that when simulations with 100 million particles are possible in computational physics, then behavior-oriented simulations with 10 million travelers should be possible in travel behavior research. The initial implementations thus combined concepts from computational physics and complex adaptive systems with concepts from travel behavior research. The third part of the book looks at theoretical concepts that are able to describe important aspects of the simulation system; for example, under certain conditions the code becomes a Monte Carlo engine sampling from a discrete choice model. Another important aspect is the interpretation of the MATSim score as utility in the microeconomic sense, opening up a connection to benefit cost analysis. Finally, the book collects use cases as they have been undertaken with MATSim. All current users of MATSim were invited to submit their work, and many followed with sometimes crisp and short and sometimes longer contributions, always with pointers to additional references. We hope that the book will become an invitation to explore, to build and to extend agent-based modeling of travel behavior from the stable and well tested core of MATSim documented here.

Powder and Particle Elsevier

This book provides a comprehensive state-of-the-art, in conceptual modeling. It grew out of research papers presented at the 18th International Conference on Conceptual Modeling (ER '99) and arranged by the editors. The plan of the conference is to cover the whole spectrum of conceptual modeling as it relates to database and information systems design and to offer a complete coverage of data and process modeling, database technology, and database applications. The aim of the conference and of these proceedings is to present new insights related to each of these topics. This book contains both selected and invited papers. The 33 selected papers are organized in 11 sessions encompassing the major themes of the conference, especially : - schema transformation, evolution, and integration - temporal database design - views and reuse in conceptual modeling - advanced conceptual modeling - business process modeling and workflows - data warehouse design. Besides the selected papers, 3 invited papers present the views of three keynote speakers, internationally known for their contribution to conceptual modeling and database research and for their active role in knowledge dissemination. Peter Chen presents the results of his ongoing research on ER model, XML, and the Web. Georges Gardarin presents the first results of an ESPRIT project federating various data sources with XML and XML-QL. Finally, Matthias Jarke develops a way to capture and evaluate the experiences gained about process designs in so-called process data warehouses.

ESCAPE-19: June 14-17, 2009, Cracow, Poland Academic Press

The Chemical Sciences Roundtable provides a forum for discussing chemically related issues affecting government, industry and government. The goal is to strengthen the chemical sciences by foster communication among all the important stakeholders. At a recent Roundtable meeting, information technology was identified as an issue of increasing importance to all sectors of the chemical enterprise. This book is the result of a workshop convened to explore this topic.

Related with A Cape Open Compliant Simulation Module For An Ammonia:

• Navy Pfa Instruction 2022 : click here