

EUR 12.038

Commission of the European Communities

European Geothermal Update

Proceedings of the
Fourth International Seminar on the Results of
EC Geothermal Energy Research and Demonstration,
Florence, 27 – 30 April 1989



KLUWER ACADEMIC PUBLISHERS

European Geothermal Update

K. Louwrier



European Geothermal Update:

European Geothermal Update K. Louwrier, 1989-04-30 Proceedings of the Fourth International Seminar on the Results of EC Geothermal Energy Research and Demonstration Florence April 27 30 1989 *European Geothermal Update* A.S. Strub, P. Ungemach, 1985-06-30 Proceedings of the Third International Seminar on the Results of EC Geothermal Energy Research held in Munich 29 November 1 December 1983 **European Geothermal Update** International Seminar European Geothermal Update, 1983 **European Geothermal Update** Commission of the European Communities, 1984

European Geothermal Update, 1983 **State of the Art in Deep Geothermal Energy in Europe** Johanna Fink, Elisa Heim, Norbert Klitzsch, 2022-04-21 Since nearly 50 % of Europe's energy demand is in the heating and cooling sector it is expected that geothermal energy will play an important role in the transition to a decarbonized energy system. However, deep geothermal energy is currently harvested mainly from areas with very favorable geothermal conditions. As these areas are geographically limited, the use of geothermal energy in less favorable regions is essential for unleashing the full potential of geothermal energy since they make up the majority of the total geothermal potential in Central Europe. Motivated by the growing interest in deep geothermal energy among energy companies and communities, this text reviews the state of the art in deep geothermal energy with focus on direct heating in geothermally less favorable regions. It provides an overview of technologies used to generate heat from the deep underground and discusses main technical and non-technical risks associated with deep geothermal projects. The text addresses readers with an interest in geothermal energy but does not require a background in geoscience or engineering sciences. It is suitable as textbook for Geothermal Energy courses for undergraduate students from different disciplines. **European Geothermal Update** K. Louwrier, 1989 *Electrical Energy Generation in Europe* Jorge Morales Pedraza, 2015-04-21 The present book maximizes reader insights into the current and future roles to be played by different types of renewable energy sources and nuclear energy for the purpose of electricity generation in the European region as a whole and in a select group of European countries specifically. This book includes detailed analysis of the different types of renewable energy sources available in different European countries, the pros and cons of the use of the different types of renewables and nuclear energy for electricity generation, which energy options are available in the different European countries to expand their energy sector in the coming years, the impact on the climate and the environment, levels of production and consumption, and the level of electricity generated by these energy sources amongst others. Designed to inform government officials, economists, scientists, and the private and public power industry of the key issues surrounding the future role of different renewable energy sources and nuclear energy in the production of electricity within the European region, this book will also describe in detail the evolution of the electrical energy sector in the chosen European region and the problems that several countries are now experiencing in the face of increasing demand for electricity. *Life Cycle Assessment of Energy Systems* Guillermo San Miguel, Sergio Alvarez, 2021-04-14 This Special Issue

on LCA of Energy Systems contains inspiring contributions on assessing the sustainability of novel technologies destined to shape the future of our energy sector These include battery based and plug in hybrid electric vehicles geothermal energy hydropower biomass gasification national electricity systems and waste incineration The analysis of trends and singularities will be invaluable to product designers engineers and policy makers Furthermore these exercises also contribute to refining the life cycle framework and harmonizing methodological decisions Our hope is that this should be a step toward promoting the use of science and knowledge to shape a better world for everyone

Mineral and Thermal Waters of Southeastern Europe Petar Papic, 2015-11-12 This book brings together the latest findings on mineral and thermal waters from countries in Southeastern SE Europe Croatia Bosnia and Herzegovina Serbia Montenegro Macedonia Albania Romania and Bulgaria Each chapter is dedicated to the most recent geochemical and hydrogeological investigations for a specific country in SE Europe helping readers to understand the origins and applications of mineral and thermal waters aspects which are of great importance for the economic development of this region as these waters are renewable resources and have been gaining in popularity over the last few decades Thanks to the region's favorable geological conditions it is home to more than 6 000 sources of mineral and thermal waters characterized by different physical properties and chemical compositions

Design of Heat Exchangers for Heat Pump Applications Marco Fossa, Antonella Priarone, 2020-12-28 Heat pumps HPs allow for providing heat without direct combustion in both civil and industrial applications They are very efficient systems that by exploiting electrical energy greatly reduce local environmental pollution and CO₂ global emissions The fact that electricity is a partially renewable resource and because the coefficient of performance COP can be as high as four or more means that HPs can be nearly carbon neutral for a full sustainable future The proper selection of the heat source and the correct design of the heat exchangers is crucial for attaining high HP efficiencies Heat exchangers also in terms of HP control strategies are hence one of the main elements of HPs and improving their performance enhances the effectiveness of the whole system Both the heat transfer and pressure drop have to be taken into account for the correct sizing especially in the case of mini and micro geometries for which traditional models and correlations can not be applied New models and measurements are required for best HPs system design including optimization strategies for energy exploitation temperature control and mechanical reliability Thus a multidisciplinary approach of the analysis is requested and become the future challenge

The Solfatara Magmatic-Hydrothermal System Luigi Marini, Claudia Principe, Matteo Lelli, 2022-05-05 This book includes innovative gas geothermometers and geobarometers which are urgently needed to estimate the increasingly higher temperatures and pressures present at depth below the Solfatara volcano owing to its on going unrest Therefore in this book new gas geoindicators applicable up to ca 1000 C and 3 kbar have been implemented and applied to Solfatara fluids The innovations of this book include methane having a sluggish behavior was treated separately from fast reacting carbon monoxide deviations from the ideal gas behavior were considered the effects of reaction kinetics were taken into account

This was possible because a dataset including many geochemical parameters and extending from 1983 to 2020 with a good sampling frequency is available for Solfatara making it a case history probably unique worldwide Nevertheless the gas geoindicators described in this book can be applied to other similar systems Thus this book is of interest to many scientists studying gas geochemistry geothermometry and geobarometry for volcanic surveillance and the mitigation of the volcanic risk

Geothermal Energy Update, 1982-12 **The Energy Index**, 1984 **Observation of the Continental Crust through Drilling II** Hans-Jürgen Behr, Francis G. Stehli, Helmut Vidal, 2012-12-06 The purpose of this book is to inform geoscientists about the progress made in scientific continental deep drilling as a new method for studying the continental crust The Seeheim symposium was the second meeting organized for experts of the various national programs to present and discuss the results and progress made in their respective programs since the first symposium in Tarrytown in 1984 Various contributors dealt with the present state of and experience in deep drilling techniques as well as with the development of logging tools for drilling at high temperatures Special emphasis was laid on the Continental Deep Drilling Program of the Federal Republic of Germany and its scientific aims

The Future of Cities and Energies in Western Europe Philippe Hamman, Nadine Roudil, 2025-01-27 The Future of Cities and Energies in Western Europe explores a variety of theoretical and empirical approaches to researching energy issues in Western European cities as well as urban energy transition It serves as a collection of materials instruments ideas and theories to embrace this subject The contributions are interdisciplinary drawing from areas such as sociology urbanism geocology architecture and political science thus demonstrating that this research topic which is now gaining full legitimacy in traditional fields requires open and reflexive dialogues

Energy Systems and Management Ali Nezihi Bilge, Ayhan Özgür Toy, Mehmet Erdem Günay, 2015-03-25 Readers of this work will find examinations of the current status and future status for energy sources and technologies their environmental interactions and the relevant global energy policies The work begins with an overview of Energy Technologies for a Sustainable Future which examines the correlation between population economy and energy consumption in the past and reviews the conventional and renewable energy sources as well as the management of them to sustain the ever growing energy demand in the future The rest of the chapters are divided into 3 parts the first part of the book Energy Sources Technologies and Environment consists of 12 chapters which include research on new energy technologies and evaluation of their environmental effects The second part Advanced Energy Materials includes 7 chapters devoted to research on material science for new energy technologies The final section titled Energy Management Economics and Policy is comprised of 10 chapters about planning controlling and monitoring energy related processes together with the policies to satisfy the needs of increasing population and growing economy The chapters are selected works from the International Conference on Energy and Management which was organized by Istanbul Bilgi University Department of Energy Systems Engineering and PALMET Energy to share the knowledge on the recent trends scientific developments innovations and management methods in energy

and held on 5 7th June 2014 at Istanbul Bilgi University

Numerical Simulation of Reactive Flow in Hot Aquifers

Christoph Clauser, 2012-12-06 This product consisting of a CD ROM and a book deals with the numerical simulation of reactive transport in porous media using the simulation package SHEMAT Processing SHEMAT SHEMAT Simulator for HEat and MAss Transport is an easy to use general purpose reactive transport simulation code for a wide variety of thermal and hydrogeological problems in two or three dimensions The book is a richly documented manual for users of this software which discusses in detail the coded physical and chemical equations Thus it provides the in depth background required by those who want to apply the code for solving advanced technical and scientific problems The enclosed companion CD ROM contains the software and data for all of the case studies The software includes user friendly pre and post processors which make it very easy to set up a model run it and view the results all from one platform Therefore the software is also very suitable for academic or technical hands on courses for simulating flow transport of heat and mass and chemical reactions in porous media You can find a link to the updated software on springer.com

Energy Research Abstracts, 1984

Geothermal Water Management Jochen Bundschuh, Barbara Tomaszewska, 2018-03-12 Availability of and adequate accessibility to freshwater and energy are two key technological and scientific problems of global significance At the end of the 20th century the deficit of water for human consumption and economic application forced us to focus on rational use of resources Increasing the use of renewable energy sources and improving energy efficiency is a challenge for the 21st century Geothermal energy is heat energy generated and stored in the Earth accumulated in hydrothermal systems or in dry rocks within the Earth's crust in amounts which constitute the energy resources The sustainable management of geothermal energy resources should be geared towards optimization of energy recovery but also towards rational management of water resources since geothermal water serves both as energy carrier and also as valuable raw material Geothermal waters depending on their hydrogeothermal characteristics the lithology of the rocks involved the depth at which the resources occur and the sources of water supply may be characterized by very diverse physicochemical parameters This factor largely determines the technology to be used in their exploitation and the way the geothermal water can be used This book is focused on the effective use of geothermal water and renewable energy for future needs in order to promote modern sustainable and effective management of water resources The research field includes crucial new areas of study an improvement in the management of freshwater resources through the use of residual geothermal water a review of the technologies available in the field of geothermal water treatment for its re use for energetic purposes and freshwater production and the development of balneotherapy The book is aimed at professionals academics and decision makers worldwide water sector representatives and administrators business enterprises specializing in renewable energy management and water treatment working in the areas of geothermal energy usage water resources water supply and energy planning This book has the potential to become a standard text used by educational institutions and research

development establishments involved in the geothermal water management

Decoding **European Geothermal Update**: Revealing the Captivating Potential of Verbal Expression

In an era characterized by interconnectedness and an insatiable thirst for knowledge, the captivating potential of verbal expression has emerged as a formidable force. Its ability to evoke sentiments, stimulate introspection, and incite profound transformations is genuinely awe-inspiring. Within the pages of "**European Geothermal Update**," a mesmerizing literary creation penned by way of a celebrated wordsmith, readers set about an enlightening odyssey, unraveling the intricate significance of language and its enduring affect our lives. In this appraisal, we shall explore the book is central themes, evaluate its distinctive writing style, and gauge its pervasive influence on the hearts and minds of its readership.

http://www.pet-memorial-markers.com/public/scholarship/Documents/giant_dump_trucks.pdf

Table of Contents European Geothermal Update

1. Understanding the eBook European Geothermal Update
 - The Rise of Digital Reading European Geothermal Update
 - Advantages of eBooks Over Traditional Books
2. Identifying European Geothermal Update
 - Exploring Different Genres
 - Considering Fiction vs. Non-Fiction
 - Determining Your Reading Goals
3. Choosing the Right eBook Platform
 - Popular eBook Platforms
 - Features to Look for in an European Geothermal Update
 - User-Friendly Interface
4. Exploring eBook Recommendations from European Geothermal Update
 - Personalized Recommendations
 - European Geothermal Update User Reviews and Ratings
 - European Geothermal Update and Bestseller Lists

5. Accessing European Geothermal Update Free and Paid eBooks
 - European Geothermal Update Public Domain eBooks
 - European Geothermal Update eBook Subscription Services
 - European Geothermal Update Budget-Friendly Options
6. Navigating European Geothermal Update eBook Formats
 - ePub, PDF, MOBI, and More
 - European Geothermal Update Compatibility with Devices
 - European Geothermal Update Enhanced eBook Features
7. Enhancing Your Reading Experience
 - Adjustable Fonts and Text Sizes of European Geothermal Update
 - Highlighting and Note-Taking European Geothermal Update
 - Interactive Elements European Geothermal Update
8. Staying Engaged with European Geothermal Update
 - Joining Online Reading Communities
 - Participating in Virtual Book Clubs
 - Following Authors and Publishers European Geothermal Update
9. Balancing eBooks and Physical Books European Geothermal Update
 - Benefits of a Digital Library
 - Creating a Diverse Reading Collection European Geothermal Update
10. Overcoming Reading Challenges
 - Dealing with Digital Eye Strain
 - Minimizing Distractions
 - Managing Screen Time
11. Cultivating a Reading Routine European Geothermal Update
 - Setting Reading Goals European Geothermal Update
 - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of European Geothermal Update
 - Fact-Checking eBook Content of European Geothermal Update
 - Distinguishing Credible Sources
13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
- Exploring Educational eBooks

14. Embracing eBook Trends

- Integration of Multimedia Elements
- Interactive and Gamified eBooks

European Geothermal Update Introduction

In this digital age, the convenience of accessing information at our fingertips has become a necessity. Whether its research papers, eBooks, or user manuals, PDF files have become the preferred format for sharing and reading documents. However, the cost associated with purchasing PDF files can sometimes be a barrier for many individuals and organizations. Thankfully, there are numerous websites and platforms that allow users to download free PDF files legally. In this article, we will explore some of the best platforms to download free PDFs. One of the most popular platforms to download free PDF files is Project Gutenberg. This online library offers over 60,000 free eBooks that are in the public domain. From classic literature to historical documents, Project Gutenberg provides a wide range of PDF files that can be downloaded and enjoyed on various devices. The website is user-friendly and allows users to search for specific titles or browse through different categories. Another reliable platform for downloading European Geothermal Update free PDF files is Open Library. With its vast collection of over 1 million eBooks, Open Library has something for every reader. The website offers a seamless experience by providing options to borrow or download PDF files. Users simply need to create a free account to access this treasure trove of knowledge. Open Library also allows users to contribute by uploading and sharing their own PDF files, making it a collaborative platform for book enthusiasts. For those interested in academic resources, there are websites dedicated to providing free PDFs of research papers and scientific articles. One such website is Academia.edu, which allows researchers and scholars to share their work with a global audience. Users can download PDF files of research papers, theses, and dissertations covering a wide range of subjects. Academia.edu also provides a platform for discussions and networking within the academic community. When it comes to downloading European Geothermal Update free PDF files of magazines, brochures, and catalogs, Issuu is a popular choice. This digital publishing platform hosts a vast collection of publications from around the world. Users can search for specific titles or explore various categories and genres. Issuu offers a seamless reading experience with its user-friendly interface and allows users to download PDF files for offline reading. Apart from dedicated platforms, search engines also play a crucial role in finding free PDF files. Google, for instance, has an advanced search feature that allows users to filter results by file type. By specifying the file type as "PDF," users can find websites that offer free PDF downloads on a specific topic. While downloading European Geothermal Update free PDF files is convenient,

its important to note that copyright laws must be respected. Always ensure that the PDF files you download are legally available for free. Many authors and publishers voluntarily provide free PDF versions of their work, but its essential to be cautious and verify the authenticity of the source before downloading European Geothermal Update. In conclusion, the internet offers numerous platforms and websites that allow users to download free PDF files legally. Whether its classic literature, research papers, or magazines, there is something for everyone. The platforms mentioned in this article, such as Project Gutenberg, Open Library, Academia.edu, and Issuu, provide access to a vast collection of PDF files. However, users should always be cautious and verify the legality of the source before downloading European Geothermal Update any PDF files. With these platforms, the world of PDF downloads is just a click away.

FAQs About European Geothermal Update Books

How do I know which eBook platform is the best for me? Finding the best eBook platform depends on your reading preferences and device compatibility. Research different platforms, read user reviews, and explore their features before making a choice. Are free eBooks of good quality? Yes, many reputable platforms offer high-quality free eBooks, including classics and public domain works. However, make sure to verify the source to ensure the eBook credibility. Can I read eBooks without an eReader? Absolutely! Most eBook platforms offer web-based readers or mobile apps that allow you to read eBooks on your computer, tablet, or smartphone. How do I avoid digital eye strain while reading eBooks? To prevent digital eye strain, take regular breaks, adjust the font size and background color, and ensure proper lighting while reading eBooks. What the advantage of interactive eBooks? Interactive eBooks incorporate multimedia elements, quizzes, and activities, enhancing the reader engagement and providing a more immersive learning experience. European Geothermal Update is one of the best book in our library for free trial. We provide copy of European Geothermal Update in digital format, so the resources that you find are reliable. There are also many Ebooks of related with European Geothermal Update. Where to download European Geothermal Update online for free? Are you looking for European Geothermal Update PDF? This is definitely going to save you time and cash in something you should think about.

Find European Geothermal Update :

[giant dump trucks](#)

[gibbons decline fall of the roman empi](#)

[gilcrease-hargrett catalogue of imprints](#)

ghost dog roleplaying game and resource*ginn english program grade two***ghost of p. s. 42***gilbert & sullivan the doyle carte years - the official picture history**ghost of gacha and more tales of the tahkis**ghetto underclass social science perspectives***gilpin gold tram****gifts to the future what planned giving can do for your institution****gimp essential reference***ghost hunters of america***gideons sport***gifts of the desert***European Geothermal Update :**

Motori ad alta potenza specifica. Le basi concettuali della ... Motori ad alta potenza specifica. Le basi concettuali della tecnica da competizione : Pignone, Giacomo A., Vercelli, Ugo R.: Amazon.it: Libri. MOTORI AD ALTA POTENZA SPECIFICA Le basi concettuali della tecnica da competizione - Nuova edizione · Prezzo: 39,00 € 31,20 € · Opzioni disponibili · Giorgio ... Motori ad alta potenza specifica. Le basi concettuali della ... Book details · Print length. 0 pages · Language. Italian · Publisher. KAVNLON · ISBN-10. 8879118986 · ISBN-13. 978-8879118989 · See all details. MOTORI AD ALTA POTENZA SPECIFICA Le basi concettuali ... Il volume spiega la tecnica delle vetture da competizione con tutti i fondamentali parametri che governano il funzionamento del motore, ed è impreziosito da ... Motori Ad Alta Potenza Specifica Le Basi Concettuali Della ... Motori Ad Alta Potenza Specifica Le Basi Concettuali Della Tecnica Da Competizione - (3° edizione 2016 riveduta e corretta). Apparso per la prima volta nel 1995 ... Motori Alta Potenza Specifica by Pignone Giacomo - AbeBooks Motori ad alta potenza specifica. Le basi concettuali della tecnica da competizione... Pignone, Giacomo A.; Vercelli, Ugo R. ISBN 13: 9788879118989. Motori ad alta potenza specifica. Le basi concettuali della ... Title, Motori ad alta potenza specifica. Le basi concettuali della tecnica da competizione. Authors, Giacomo Augusto Pignone, Ugo Romolo Vercelli. MOTORI AD ALTA POTENZA SPECIFICA - Nuova edizione Scopri MOTORI AD ALTA POTENZA SPECIFICA - Nuova edizione di Giacomo Augusto Pignone, Ugo Romolo Vercelli pubblicato da GIORGIO NADA EDITORE. Motori ad alta potenza specifica. Le basi concettuali della ... Acquista il bestseller Motori ad alta potenza specifica. Le basi concettuali della tecnica da competizione di Giacomo A. Pignone, Ugo R. Vercelli con ... Motori ad alta

potenza specifica: le basi concettuali della ... La tanto attesa nuova edizione del volume che spiega la tecnica delle vetture da competizione con tutti i fondamentali parametri che governano il ... Chattanooga Tn Hamilton County Schools 2014 2015 Calendar Chattanooga Tn Hamilton County Schools 2014 2015 Calendar. 1. Chattanooga Tn Hamilton County Schools 2014 2015 Calendar. Chattanooga Tn Hamilton County Schools ... Calendar 2024-2025. 2024-25 School Calendar (Block Format) Approved 6/15/2023 2024-25 Spanish School Calendar (Block Format). 2024-25 School Calendar (Traditional ... HAMILTON COUNTY SCHOOL CALENDAR 2003-04 TERM HAMILTON COUNTY SCHOOL CALENDAR: 2014-15. (Approved by School Board: 11/21/13). OPENING DATE - AUGUST 1, 2014. SCHOOL DAYS - 180. CLOSING DATE - MAY 22, ... Hamilton County Schools: Home Chattanooga, TN 37421. Phone Icon. 423-498-7020. FAMILIES. Before and After Care · Calendar & Events · Family Portal · Code of Acceptable Behavior · Bus ... hamilton county school calendar: 2023-2024 Half Day for Students/Half Day Teacher Planning- BUSES WILL RUN. October 6, Friday. End of 1st Quarter (42 days). October 9-13, M-F. Fall Break (5 Unpaid Days). Reading free Chattanooga tn hamilton county schools ... Jan 30, 2023 — Reading free Chattanooga tn hamilton county schools 2014 2015 calendar (PDF) | www.eventplanner.stormspakhus.dk www.eventplanner ... hamilton county school district calendar 2023-2024 Jul 24, 2023 — April 1-5 - Spring Break. 1 2 3 4 5. 9 10. 7. 11. 9. 12 13. 8 9 10 11 12. 16 ... HAMILTON COUNTY SCHOOL DISTRICT CALENDAR. 2023-2024. Page 2. * ... Hamilton County Schools Approved 2021-2022 Calendar Hamilton County Schools Approved 2021-2022 Calendar - Free download as PDF File (.pdf), Text File (.txt) or read online for free. Hamilton County Schools ... Calendar Christmas Break - Dec. 16-Jan. 3 ; MLK Day - Jan. 15 ; Winter Break - Feb. 16-20 ; Spring Break - March 23-April 1 ; High School Graduation - May 18. Hamilton County School Board approves school calendar ... Feb 17, 2021 — The Hamilton County School Board is expected to review the proposed school calendar for the Fall 2021 and Spring 2022 school year at Thursday ... Criminalistics: An Introduction to Forensic Science (11th ... Criminalistics: An Introduction to Forensic Science (11th Edition) [Saferstein, Richard] on Amazon.com. *FREE* shipping on qualifying offers. Criminalistics (11th edition): Saferstein, Richard Criminalistics (11th edition) [Saferstein, Richard] on Amazon.com. *FREE ... Criminalistics (11th edition). 4.3 4.3 out of 5 stars 14 Reviews. 4.1 on Goodreads. An Introduction to Forensic Science - criminalistics - Chegg Criminalistics11th edition ; ISBN-13: 9780133458824 ; Authors: Richard Saferstein ; Full Title: Criminalistics: An Introduction to Forensic Science ; Edition: 11th ... Criminalistics: An Introduction to Forensic Science (11th ... Criminalistics: An Introduction to Forensic Science (11th Edition) - Softcover. Saferstein, Richard. 4.06 avg rating • (350 ratings by Goodreads). View all ... Criminalistics: An Introduction to Forensic Science (11th ... Criminalistics: An Introduction to Forensic Science (11th Edition) Saferstein, Richard. Criminalistics (11th edition) book by Richard Saferstein Criminalistics: An Introduction to Forensic Science. Richard Saferstein ; The Forensic Casebook: The Science of Crime Scene Investigation. Ngaire E. Genge. Criminalistics: An Introduction to Forensic Science ... Criminalistics: An Introduction to Forensic Science (11th Edition). by Saferstein, Richard. Used; Paperback. Condition: Used:

Good; Binding: Paperback; ISBN ... Criminalistics: An Introduction to Forensic Science (11th ... Paperback; Edition: 11; Author: Richard Saferstein; Publisher: Pearson; Release Date: 2014; ISBN-10: 0133458822; ISBN-13: 9780133458824; List Price: \$211.40. Criminalistics : an introduction to forensic science Criminalistics : an introduction to forensic science ; Author: Richard Saferstein (Author) ; Edition: 11th edition View all formats and editions ; Publisher: ... Textbook Binding By Saferstein, Richard - GOOD Criminalistics (11th edition) - Textbook Binding By Saferstein, Richard - GOOD ; Quantity. 2 available ; Item Number. 254998076406 ; Book Title. Criminalistics (...