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KEY=ROBOTIC - SUMMERS DARRYL

HIGH-SPEED COMPUTATION

(PROCEEDINGS OF THE NATO ADVANCED RESEARCH WORKSHOP ON HIGH-SPEED COMPUTATIONS, HELD AT JULICH, FEDER

VORTEX DYNAMICS IN HIGH TEMPERATURE SUPERCONDUCTORS

NATO ADVANCED RESEARCH WORKSHOP: VORTEX DYNAMICS IN HIGH TEMPERATURE SUPERCONDUCTORS

FRONTIERS OF HIGH-PRESSURE RESEARCH

Springer Science & Business Media The role of high pressure experiments in the discovery of superconducting materials with a T_c above liquid nitrogen temperature has demonstrated the importance of such experiments. The same role holds true in the tailoring of materials for optoelectronic devices. In addition, much progress has been made recently in the search for metallic hydrogen, and the application of high pressure in polymer research has brought forth interesting results. These facts together with the success of previous small size meetings (such as the "First International Conference on the Physics of Solids at High Pressure", held in 1965 in Tucson, Arizona, U. S. A. ; "High Pressure and Low Temperature Physics", held in 1977 in Cleveland, Ohio, U. S. A. ; and "Physics of Solids Under High Pressure", held in 1981 in Bad Honnef, Germany), motivated us to organize a workshop with emphasis on the newest results and trends in these fields of high pressure research. Furthermore, it was intended to mix experienced and young scientists to realize an idea best expressed in a letter by Prof. Weinstein: "I think it is an excellent idea. I have often felt that the number of excellent young researchers in the high pressure field need an opportunity to put forward their work with due recognition. " Thanks to the support of the key speakers, we were able to achieve this goal and had more than 50\ young participants.

PHYSICS AND MATERIALS SCIENCES OF HIGH TEMPERATURE SUPERCONDUCTIVITY, IV. NATO ADVANCED RESEARCH WORKSHOP

The proceedings covered the abstracts of oral presentations on Physics and Materials Sciences of high temperature Superconductivity in the advanced research workshop.

ADVANCES IN HIGH PERFORMANCE COMPUTING

Springer Most of the papers in this volume were presented at the NATO Advanced Research Workshop High Performance Computing: Technology and Application, held in Cetraro, Italy from 24 to 26 of June, 1996. The main purpose of the Workshop was to discuss some key scientific and technological developments in high performance computing, identify significant trends and define desirable research objectives. The volume structure corresponds, in general, to the outline of the workshop technical agenda: general concepts and emerging systems, software technology, algorithms and applications. One of the Workshop innovations was an effort to extend slightly the scope of the meeting from scientific/engineering computing to enterprise-wide computing. The papers on performance and scalability of database servers, and Oracle DBMS reflect this attempt. We hope that after reading this collection of papers the readers will have a good idea about some important research and technological issues in high performance computing. We wish to give our thanks to the NATO Scientific and Environmental Affairs Division for being the principal sponsor for the Workshop. Also we are pleased to acknowledge other institutions and companies that supported the Workshop: European Union: European Commission DGIII-Industry, CNR: National Research Council of Italy, University of Calabria, Alenia Spazio, Centro Italiano Ricerche Aerospaziali, ENEA: Italian National Agency for New Technology, Energy and the Environment, Fujitsu, Hewlett Packard-Convex, Hitachi, NEC, Oracle, and Silicon Graphics-Cray Research. Editors January 1997 vii LIST OF CONTRIBUTORS Ecole Normale Supérieure de Lyon, 69364 Abarbanel. Robert

M.

NATO ADVANCED RESEARCH WORKSHOP ON NANOSTRUCTURED FILMS AND COATINGS. SERIES 3. HIGH TECHNOLOGY -

The Final Proceedings for NATO Advanced Research Workshop on Nanostructured Films and Coatings, 28 June 1999 - 30 June 1999. This is an interdisciplinary conference. Topics include nanostructure synthesis and processing, modeling, characterization and properties (mechanical, biological, chemical, electronic and magnetic), and applications.

FRONTIERS OF HIGH PRESSURE RESEARCH

Springer Science & Business Media Proceedings of a NATO ARW held in Fort Collins, Colorado, July 15-18, 1991

ACID DEPOSITION AT HIGH ELEVATION SITES

Springer Science & Business Media There is no shortage of general books on the subject of acid rain, or of symposium proceedings reviewing work ranging from atmospheric chemistry and deposition processes to freshwater acidification and effects on vegetation. In contrast, the collection of papers from this Workshop is focussed on a much smaller subject, the processes of acid deposition at high altitude sites. Interest in deposition at high elevation sites comes largely from observed vertical gradients in the degree of forest damage at sites in the Federal Republic of Germany and the eastern United States. These gradients show that damage to Norway spruce and fir increases with altitude at sites in Bavaria and the Black Forest, and that Red spruce are declining at high elevation sites in the Appalachian Mountains. With the large scale of scientific interest in forest decline, many research groups, during the last five years, have been examining atmospheric chemistry, deposition processes, and effects on vegetation and soils at upland sites. In particular there have been many recent studies of cloud and precipitation chemistry, which show much larger concentrations of all ions in cloud water than in rain or snow. These studies have also shown that processes of wet and dry deposition and also the chemistry of the air at hill tops are modified strongly by orographic effects.

VERY HIGH ENERGY GAMMA RAY ASTRONOMY

Springer Science & Business Media An Advanced Research Workshop on Very High Energy Gamma Ray Astronomy and Related Topics was held at Durham, England during August 11-15 1986. The meeting was sponsored by the Scientific Affairs Division of NATO and the University of Durham. It is four years since the first Workshop dedicated to High Energy Gamma Ray Astronomy was held at Ootacamund, India. At that meeting the developments in Very High Energy Gamma Ray Astronomy over a period of more than 20 years were reported and the methodology, limitations, improvements and prospects for further progress were discussed. The possible requirement for a follow-up meeting was clear if the optimistic future foreseen for the field at the Ooty meeting was correct. The Durham meeting was suggested to fill this role. Although the arrangements for the Durham meeting were discussed as long ago as 1983 with possible dates in 1984 or 1986, the eventual date in 1986 has proved admirable and has coincided with a time when further advances have been reported. An important feature of the proposal for the Durham meeting was the emphasis on a series of Workshop sessions, the conclusions of each to be summarized by a Rapporteur. The purpose of these sessions was to provide a consensus view of many of the important areas in the field at a time of increasing interest by the rest of the astrophysics community.

HIGH SPECTRAL RESOLUTION INFRARED REMOTE SENSING FOR EARTH'S WEATHER AND CLIMATE STUDIES

Springer Science & Business Media One of major challenges facing Earth's science in the next decade and beyond is the development of an accurate long term observational data set to study global change. To accomplish this, a wide range of observations will be required to provide both new measurements, not previously achievable and measurements with a greater degree of accuracy and resolution than the ones which are presently and currently available. Among the parameters that are currently retrieved from satellite vertical sounding observations, temperature and moisture profiles are the most important for the description of the thermodynamic state of the medium. Other parameters, like those describing the cloud fields, the surface state or the conditions close to the surface are also key parameters for meteorology and climatology. A new generation of high spectral atmospheric sounders in the infrared has recently been designed to provide both new and more accurate data about the atmosphere, land and oceans for application to climate studies. Among the important observations that these instruments should contribute to the climate data set are day and night global measurements of: atmospheric temperature profiles; relative humidity profiles; cloud field parameters; total ozone burden of the atmosphere; distribution of minor atmospheric gases (methane, carbonmonoxide and nitrous oxide).

LITERATURE 1991, PART 2

Springer Science & Business Media "Astronomy and Astrophysics Abstracts" appearing twice a year has become one of the fundamental publications in the fields of astronomy, astrophysics and neighbouring sciences. It is the most important English-language abstracting journal in the mentioned branches. The abstracts are classified under more than a hundred subject categories, thus permitting a quick survey of the whole extended material. The AAA is a valuable and important publication for all students and scientists working in the fields of astronomy and related sciences. As such it represents a necessary ingredient of any astronomical library all over the world.

REFLECTION HIGH-ENERGY ELECTRON DIFFRACTION AND REFLECTION ELECTRON IMAGING OF SURFACES

Springer This volume contains the papers presented at the NATO Advanced Research Workshop in "Reflection High Energy Electron Diffraction and Reflection Electron Imaging of Surfaces" held at the Koningshof conference center, Veldhoven, the Netherlands, June 15-19, 1987. The main topics of the workshop, Reflection High Energy Electron Diffraction (RHEED) and Reflection Electron Microscopy (REM), have a common basis in the diffraction processes which high energy electrons undergo when they interact with solid surfaces

at grazing angles. However, while REM is a new technique developed on the basis of recent advances in transmission electron microscopy, RHEED is an old method in surface crystallography going back to the discovery of electron diffraction in 1927 by Davisson and Germer. Until the development of ultra high vacuum techniques in the 1960's made instruments using slow electrons more accessible, RHEED was the dominating electron diffraction technique. Since then and until recently the method of Low Energy Electron Diffraction (LEED) largely surpassed RHEED in popularity in surface studies. The two methods are closely related of course, each with its own specific advantages. The grazing angle geometry of RHEED has now become a very useful feature because this makes it ideally suited for combination with the thin growth technique of Molecular Beam Epitaxy (MBE). This combination allows in-situ studies of freshly grown and even growing surfaces, opening up new areas of research of both fundamental and technological importance.

DESERTIFICATION AND RISK ANALYSIS USING HIGH AND MEDIUM RESOLUTION SATELLITE DATA

TRAINING WORKSHOP ON MAPPING DESERTIFICATION

Springer Science & Business Media This work becomes with methodological rigor a part of the innovative proposals for the characterization of the areas at risk of desertification. The complexity of the phenomenon of desertification, which involves extended surfaces in all continents, is one of the most alarming processes of the environmental degradation of our Planet and threatens the health and the living conditions of over a billion of persons. The food crisis, in continuous increase, asks for the world of research to urgently supply reassuring solutions concerning the acquisition of indicators, which are easy to monitor and concur to control the phenomenon in order to fight its acceleration. The constant but different combination that determines the diffusion of desertification in the territories, attributable mostly to climatic changes and the activities of the man, makes our job challenging and complicated, since it varies from region to region. We are aware of all this and therefore we think that the methodological approach of survey of the data is an extremely important element to locate of the phenomenon and to monitor its course. This work, which is characterized for its multi-disciplinary approach, suggests solutions that we wish will quickly find concrete applications at international level. Prof. Bruno Dettori President CNLSD (Comitato Nazionale per la Lotta alla Siccità e alla Desertificazione) v

NANOSTRUCTURED MATERIALS BY HIGH-PRESSURE SEVERE PLASTIC DEFORMATION

Springer Science & Business Media Recently, it was reported that nanostructured materials processed under high pressure by HPT and ECAP have an extraordinary combination of both high strength and high ductility, which are two desirable, but rarely co-existing properties. These findings indicate that high-pressure is a critical factor that can be employed to process nanostructured materials with superior mechanical, and possibly also physical, properties. It is the objective of this workshop to review our current knowledge, identify issues for future research, and discuss future directions on the processing and properties of nanostructured materials via SPD techniques, with a special emphasis on high-pressure effects. The 42 peer-reviewed papers in this book cover areas of high pressure effect on the nanostructure and properties of SPD-processed materials, fundamentals of nanostructured materials, development of high-pressure SPD technologies for commercializations, recent advances of SPD technologies as well as applications and future markets of SPD-processed nanostructured materials.

REFLECTION HIGH-ENERGY ELECTRON DIFFRACTION AND REFLECTION ELECTRON IMAGING OF SURFACES

Springer Science & Business Media This volume contains the papers presented at the NATO Advanced Research Workshop in "Reflection High Energy Electron Diffraction and Reflection Electron Imaging of Surfaces" held at the Koningshof conference center, Veldhoven, the Netherlands, June 15-19, 1987. The main topics of the workshop, Reflection High Energy Electron Diffraction (RHEED) and Reflection Electron Microscopy (REM), have a common basis in the diffraction processes which high energy electrons undergo when they interact with solid surfaces at grazing angles. However, while REM is a new technique developed on the basis of recent advances in transmission electron microscopy, RHEED is an old method in surface crystallography going back to the discovery of electron diffraction in 1927 by Davisson and Germer. Until the development of ultra high vacuum techniques in the 1960's made instruments using slow electrons more accessible, RHEED was the dominating electron diffraction technique. Since then and until recently the method of Low Energy Electron Diffraction (LEED) largely surpassed RHEED in popularity in surface studies. The two methods are closely related of course, each with its own specific advantages. The grazing angle geometry of RHEED has now become a very useful feature because this makes it ideally suited for combination with the thin growth technique of Molecular Beam Epitaxy (MBE). This combination allows in-situ studies of freshly grown and even growing surfaces, opening up new areas of research of both fundamental and technological importance.

DEFECTS IN HIGH-K GATE DIELECTRIC STACKS

NANO-ELECTRONIC SEMICONDUCTOR DEVICES

Springer Science & Business Media The main goal of this book is to review at the nano and atomic scale the very complex scientific issues that pertain to the use of advanced high dielectric constant (high-k) materials in next generation semiconductor devices. One of the key obstacles to integrate this novel class of materials into Si nano-technology are the electronic defects in high-k dielectrics. It has been established that defects do exist in high-k dielectrics and they play an important role in device operation. The unique feature of this book is a special focus on the important issue of defects. The subject is covered from various angles, including silicon technology, processing aspects, materials properties, electrical defects, microstructural studies, and theory. The authors who have contributed to the book represents a diverse group of leading scientists from academic, industrial and governmental labs worldwide who bring a broad array of backgrounds (basic and applied physics, chemistry, electrical engineering, surface science, and materials science). The contributions to this book are accessible to both expert scientists and engineers who need to keep up with leading edge research, and newcomers to the field who wish to learn more about the exciting basic and applied research issues relevant to next

generation device technology.

NATIONAL LIBRARY OF MEDICINE CURRENT CATALOG

CUMULATIVE LISTING

NEW CHALLENGES IN SUPERCONDUCTIVITY: EXPERIMENTAL ADVANCES AND EMERGING THEORIES

PROCEEDINGS OF THE NATO ADVANCED RESEARCH WORKSHOP, HELD IN MIAMI, FLORIDA, 11-14 JANUARY 2004

Springer Science & Business Media This volume contains the proceedings of the 2004 University of Miami Workshop on Unconventional Superconductivity. The workshop was the fourth in a series of successful meetings on High-T Superconductivity and C related topics, which took place at the James L. Knight Physics Building on the University of Miami campus in Coral Gables, Florida, in January 1991, 1995, 1999, and 2004. The workshop consisted of two consecutive events: 1. NATO Advanced Research Workshop (ARW) on New Challenges in Superconductivity: Experimental Advances and Emerging Theories, held on January 11-14, 2004; 2. Symposium on Emerging Mechanisms for High Temperature Superconductivity (SEMHTS), held on January 15-16, 2004. It is hard to write a balanced preface to a volume like this one, yet at least we try to offer the reader a taste of what was happening in this workshop. There were close to a hundred scientists from around the world, albeit fewer Russians than we had originally hoped for. Nevertheless, the workshop was very lively and we trust that this is demonstrated in this volume. The workshop included high-quality presentations on state of the art works, yet a key issue, discussed by many, was how homogeneous the cuprates are. STM data, as well as other reports, showed that the cuprate superconductors (SC's) studied were inhomogeneous, especially in the underdoped regime; while experiments, like ARPES and magnetoresistance have established the existence of a Fermi Surface (FS), at least above some doping level, in the cuprates.

AMERICAN BOOK PUBLISHING RECORD

BPR ANNUAL CUMULATIVE

LOCAL AND METROPOLITAN COMMUNICATION SYSTEMS

PROCEEDINGS OF THE THIRD INTERNATIONAL CONFERENCE ON LOCAL AND METROPOLITAN COMMUNICATION SYSTEMS

Springer We are witnessing an ever-increasing thrust toward the era of multimedia information networks, largely spurred by the U.S. Government's proposal for the National Information Infrastructure in the fall of 1993. While more people are subscribing to the services of narrowband ISDN, the implementation of broadband ISDN by means of Asynchronous Transfer Mode (ATM) has accelerated since the formation of the ATM Forum in 1993. In the meantime, frame relay may prevail for inter-LAN connections. In the "upper layer" of the network, commercial use of Internet is rapidly emerging. To ensure the successful development of technology, it is vital to use a judicious approach in assessing the architecture and performance of the systems that implement the technology. It is this spirit that underlies the present conference, which is intended to provide an international forum for the presentation of recent research results in the area of local and metropolitan communication systems. This conference has two sets of predecessors. It is the third in a series of international conferences on Local and Metropolitan Communication Systems -LAN & MAN; the first was held in Toulouse in 1986 and the second in Palma de Mallorca in 1991. It is also the fourth in a triennial series organized by Kyoto University and others on the performance of communication-related systems; the previous ones were held in Tokyo (1985) and Kyoto (1988, 1991).

X ADVANCED RESEARCH WORKSHOP ON HIGH ENERGY SPIN PHYSICS (NATO ARW DUBNA-SPIN-03), DUBNA, SEPTEMBER 16-20, 2003

PROCEEDINGS

GRID COMPUTING: THE NEW FRONTIER OF HIGH PERFORMANCE COMPUTING

Elsevier The book deals with the most recent technology of distributed computing. As Internet continues to grow and provide practical connectivity between users of computers it has become possible to consider use of computing resources which are far apart and connected by Wide Area Networks. Instead of using only local computing power it has become practical to access computing resources widely distributed. In some cases between different countries in other cases between different continents. This idea of using computer power is similar to the well known electric power utility technology. Hence the name of this distributed computing technology is the Grid Computing. Initially grid computing was used by technologically advanced scientific users. They used grid computing to experiment with large scale problems which required high performance computing facilities and collaborative work. In the next stage of development the grid computing technology has become effective and economically attractive for large and medium size commercial companies. It is expected that eventually the grid computing style of providing computing power will become universal reaching every user in industry and business. * Written by academic and industrial experts who have developed or used grid computing * Many proposed solutions have been tested in real life applications * Covers most essential and technically relevant issues in grid computing

ENERGY RESEARCH ABSTRACTS

ENVIRONMENTAL PROTECTION AGAINST RADIOACTIVE POLLUTION

Springer Science & Business Media The reports presented here discuss: General estimation of the radioactive contamination of the territories and radiation hazardous objects, including former military test sites, areas influenced due to Chernobyl and Mayak accidents, and territories of oil fields; Techniques and procedures of radioecological monitoring; Techniques of determining radionuclide concentrations and species in the environment. The cross-border transport of radionuclides between Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan by the waterways of Central Asia is discussed and a number of cases are described where the redistribution and accumulation of the natural radionuclides resulted in dangerous radioecological situations. This book also provides a strong foundation on which to build further multilateral programmes that can enhance understanding and cooperation in addressing the issues surrounding the sites where nuclear weapons were once tested.

TERRORISM RISK ASSESSMENT INSTRUMENTS

CONTEMPORARY POLICY AND LAW ENFORCEMENT CHALLENGES

IOS Press The search for a distinct "terrorist profile" has been going on for many years, and while it is generally agreed that nobody is born a terrorist, there is plenty of disagreement about why a person might become one. Whereas personal and situational push and pull factors can be combined to determine how and why young people become involved in terrorism, preventing an individual from following a path that ends in violence without moral restraint poses an enormous challenge, especially in an open society. This book presents papers from the NATO Advanced Research Workshop titled "A Review of the Utility of Existing Terrorism Risk Assessment Instruments and Policies: Is there the Need for Possible New Approaches?", held in Berlin, Germany, on 29-30 November 2019. Researchers were asked to present papers for discussion sessions with invited participants and practitioners from a number of NATO member and partner countries. Various assessment instruments for identifying problematic individuals at an early stage were presented by experts. It was generally agreed that, due to cultural, religious and other differences, there is no simple way to identify the relatively few high-risk individuals among the larger population of politically radicalized but not necessarily violent individuals who pose no threat. Framed by an Introduction and Conclusion, the 16 chapters in the book are divided into three parts: Theory and Risk/Threat Assessment Instrument Policy Themes; Implementation of Politically Motivated Terrorism Protocols; and Personality Traits/Disorders, Anti-State Terrorism Profiles and the DSM-5 Personality Trait Instrument. This practice-oriented book will be of interest to all those tasked with protecting society from some of its most dangerous members.

MANAGEMENT TRAINING IN HIGH-TECH AND R&D

CONCEPT FOR ENTERPRISES UNDER TRANSITION

Springer Science & Business Media Innovative activities on the development of which Russia puts its hopes for the preservation and successful reconstruction of the former USSR applied science are based on three key factors: funding, infrastructure and management. These factors are of equal significance, however, under today's economic conditions in Russia two latter ones become of critical importance. This determines the range of readers to whom the present book is addressed: - representatives of official institutions both Russian and international in charge of technological and scientific sphere reorganization, high-tech industry conversion, market transformations under transit economies; ~ Western experts, lecturers, consultants participating in the implementation of various bilateral and international programs according to the above mentioned directions; - Russian specialists establishing new high-tech enterprises and organizations and corresponding innovative infrastructure. This book brought to readers' attention includes edited presentations at NATO Advanced Research Workshop (ARW) "Concept of Management Training for in High-Tech, Science and R&D" (1-5 July, 1996, St.Petersburg, Russia).

CURRENT CATALOG

First multi-year cumulation covers six years: 1965-70.

NANOSOURCES AND MANIPULATION OF ATOMS UNDER HIGH FIELDS AND TEMPERATURES: APPLICATIONS

APPLICATIONS

Springer Science & Business Media This volume contains the proceedings of the NATO Advanced Research Workshop which reviewed the basic principles and highlighted the progress made during the last few years on the atomic scale sources and the interactions between microprobes and samples. The motivation is to use the novel properties attached to the atomic dimensions to develop nanoscale technologies.

RECENT TRENDS IN THEORY OF PHYSICAL PHENOMENA IN HIGH MAGNETIC FIELDS

Springer Science & Business Media A comprehensive collection of papers on theoretical aspects of electronic processes in simple and synthetic metals, superconductors, bulk and low-dimensional semiconductors under extreme conditions, such as high magnetic and electric fields, low and ultra-low temperatures. The main emphasis is on low-dimensional conductors and superconductors, where correlated electrons, interacting with magnetic or nonmagnetic impurities, phonons, photons, or nuclear spins, result in a variety of new physical phenomena, such as quantum oscillations in the superconducting state, Condon instability, Skyrmions and composite fermions in quantum Hall effect systems, and hyperfine field-induced mesoscopic and nanoscopic phenomena. Several new experimental achievements are reported that promise to delineate future trends in low temperature and high magnetic field physics, including the experimental observation of the interplay between superconductivity and nuclear spin ordering at ultra-low temperatures, new observations of Condon domains in normal metals, and an experimental proposal for the realisation of isotopically engineered, semiconductor-based spin-qubit elements for future quantum computation and communication technology.

FUTURE ENERGY CONFERENCES AND SYMPOSIA

U.S. DEPT. OF ENERGY, OFFICE OF SCIENTIFIC AND TECHNICAL INFORMATION

TRIGLYCERIDE, HIGH DENSITY LIPOPROTEIN, AND CORONARY HEART DISEASE

JANUARY 1989 THROUGH FEBRUARY 1992 PLUS SELECTED EARLIER LITERATURE : 1636 CITATIONS

This bibliography is organized into sections on background; relationship of high density lipoprotein, triglyceride, and coronary heart disease; genetics and genetic syndromes; secondary causes of high triglyceride and low high density lipoprotein; measurement of high density lipoprotein and triglyceride; evidence from clinical trials; approach to high triglyceride and low high density lipoprotein; and monographs.

DISPOSAL OF WEAPON PLUTONIUM

APPROACHES AND PROSPECTS

Springer Science & Business Media This NATO Advanced Research Workshop on Disposal of Weapons Plutonium is a follow-up event to two preceding workshops, each dealing with a special subject within the overall disarmament issue: "Disposition of Weapon Plutonium", sponsored by the NATO Science Committee. The first workshop of this series was held at the Royal Institute of International Affairs in London on 24-25 January 1994, entitled "Managing the Plutonium Surplus, Applications, and Options". Its overall goal was to clarify the current situation with respect to plutonium characteristics and availability, the technical options for use or disposal, and their main technical, environmental, and economic constraints. In the immediate term, plutonium recovered from dismantled nuclear warheads will have to be stored securely, and under international safeguards if possible. In the intermediate term, the principal alternatives for disposition of this plutonium are: irradiation in mixed oxide (MOX) fuel assemblies in existing commercial light-water reactors or in specially adapted light-water reactors capable of operation with full cores of MOX fuel and irradiation in future fast reactors. Another option is to blend plutonium with high-level waste as it is vitrified for final disposal in a geologic repository. In both cases, the high radioactivity of the resulting products provides "self shielding" and prevents separation of plutonium without already developed and available sophisticated technology. The so-called "spent fuel standard" as an effective protection barrier is required in either case.

THE CUMULATIVE BOOK INDEX

ADVANCED RADIATION SOURCES AND APPLICATIONS

PROCEEDINGS OF THE NATO ADVANCED RESEARCH WORKSHOP, HELD IN NOR-HAMBERD, YEREVAN, ARMENIA, AUGUST 29 - SEPTEMBER 2, 2004

Springer Science & Business Media A NATO Advanced Research Workshop on "Advanced Radiation Sources and Applications" was held from August 29 to September 2, 2004. Hosted by the Yerevan Physics Institute, Yerevan, Armenia, 30 invited researchers from former Soviet Union and NATO countries gathered at Nor-Hamberd, Yerevan, on the slopes of Mount Aragats to discuss recent theoretical as well as experimental developments on means of producing photons from mostly low energy electrons. This meeting became possible through the generous funding provided by the NATO Science Committee and the programme director Dr. Fausto Pedrazzini in the NATO Scientific and Environmental Affairs Division. The workshop - rectors were Robert Avakian, Yerevan Physics Institute, Armenia and Helmut Wiedemann, Stanford (USA). Robert Avakian provided staff, logistics and infrastructure from the Yerevan Physics institute to assure a smooth execution of the workshop. Special thanks goes to Mrs. Ivetta Keropyan for administrative and logistics support to foreign visitors. The workshop was held at the institute's resort in Nor-Hamberd on the slopes of Mount Aragats not far from the Yerevan cosmic ray station. The isolation and peaceful setting of the resort provided the background for a fruitful week of presentations and discussions. Following our invitations, 38 researchers in this field came to the workshop from Armenia, Belarus, Romania, Russia, Ukraine, Denmark, France, Germany and the USA. Commuting from Yerevan local scientists joined the daily presentations. Over a five day period 40 presentations were given.

SEA-DUMPED CHEMICAL WEAPONS: ASPECTS, PROBLEMS AND SOLUTIONS

Springer Science & Business Media This volume summarises the materials presented at the NATO Advanced Research Workshop on Sea-Dumped Chemical Munitions, held in Kaliningrad (Moscow Region), Russia, in January 1995. The conference was sponsored by the NATO Division of Scientific and Environmental Affairs in the framework of its outreach programme to develop co-operation between NATO member countries and the Cooperation Partner countries in the area of disarmament technologies. The problem of the ecological threat posed by chemical weapons (CW) dumped in the seas after the Second World War deserves considerable international attention: the amount of these weapons, many of them having been captured from the German Army, is assessed at more than three times as much as the total chemical arsenals reported by the United States and Russia. They were disposed of in the shallow depths of North European seas - areas of active fishing - in close proximity to densely populated coastlines, with no consideration of the long-term consequences. The highly toxic material have time and again showed up, for instance when retrieved occasionally in the fishing nets, attracting local media coverage only. Nevertheless, this issue has not yet been given adequate and comprehensive scientific analysis, the sea-disposed munitions are not covered by either the Chemical Weapons Convention or other arms control treaties. In fact, the problem has been neglected for a long time on the international level. Only recently were official data made available by the countries which admitted conducting dumping operations.

PROTECTIVE COATINGS AND THIN FILMS

SYNTHESIS, CHARACTERIZATION AND APPLICATIONS

Springer Science & Business Media This volume entitled "Protective Coatings and Thin Films : Synthesis, Characterization and Applications" contains the Proceedings of the NATO Advanced Research Workshop (ARW) held in Alvor, Portugal from May 30 to June 5, 1996. This NATO-ARW was an expert meeting on the surface protection and modification of solid materials subjected to interactions with the environment. The meeting attracted 10 key speakers, 40 contributing speakers and 3 observers from various countries. The existing knowledge and current status of the science and technology related to protective coatings and thin films were assessed through a series of oral presentations, key notes (titles underlined in the volume content) and contributed papers distributed over various sessions dealing with: (a) plasma-assisted physical and chemical vapor deposition processes to enhance wear and corrosion protection of materials, (b) low friction coatings operating in hostile environment (vacuum, space, extreme temperatures, . . .), (c) polymer films for protection against mechanical damage and chemical attack, (d) characterization of the structure of films and correlations with mechanical properties, (e) wear and corrosion resistant thermal spray coatings, (f) functional gradient ceramic/metallic coatings produced by high energy laser beam and energetic deposition processes for high temperature applications, (g) protective coatings for optical systems, and (h) ion beam assisted deposition of coatings for protection of materials against aqueous corrosion.

NATO TOWARDS THE CHALLENGES OF A CONTEMPORARY WORLD 2013

Instytut Badań nad Stosunkami Międzynarodowymi w Warszawie (International Relations Research Institute in Warsaw) A wide range of contemporary challenges and threats, and their volatility, uncertainty, complexity and ambiguity make it necessary to develop a new, flexible and integrated holistic approach. The modern world requires NATO to build institutional partnerships with a range of actors. This applies not only to the other major international organizations, such as the United Nations and the European Union, but also to non-governmental organizations (NGOs) as well as the private sector, for example the energy and IT sectors. All these players must become partners in the attempt to cope with multi-dimensional security-related problems. Given the vast differences in their goals, mandates, methods and philosophy of action, building trusting and effective relationships between them will be an arduous process. Nevertheless, as the biggest political and military organization in the world, NATO cannot avoid contemporary challenges if it does not want to "go out of business".

DIRECTORY OF PUBLISHED PROCEEDINGS

SERIES SEMT: SCIENCE/ENGINEERING/MEDICINE/TECHNOLOGY

STRENGTHENING MARITIME SECURITY THROUGH COOPERATION

IOS Press Seventy percent of our planet is covered by water, and even in today's world of instant communication the global community is still heavily reliant on sea-based transport. The maritime domain has always been one of NATO's key strengths, but concerns about maritime security have taken on renewed importance in recent years, and NATO has been forced to re-examine some of its fundamental assumptions about the post Cold War security environment. This book shares some of the research, debates and findings from a NATO Advanced Research Workshop (ARW); Building Trust to Enhance Maritime Security, held in Geneva, Switzerland, in November 2014. The chapters in the book deal extensively with lessons learned by NATO from a wide range of policies, operations and situations. This maritime experience has been amassed from the Atlantic and Mediterranean to the Baltic and the Black Sea, and even into the Indian Ocean, as well as from the four decades spent defending NATO allies on the high seas during the Cold War. The single most profound lesson learned over the years has concerned the importance of efficient coordination. Structures and mechanisms have been created, not least in recent counter piracy operations, which enable a vast array of actors to work together in an efficient way, and which could prove invaluable in future efforts to counter terrorism and aggression worldwide. The safety of the maritime domain is essential to the freedom and security of all nations, and this book will be of interest to all those whose work involves maintaining that freedom and security.