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Annales de physiqueNew Trends in Physics and Physical Chemistry of PolymersAn Introduction to the Therapeutic Relationship in Counselling and PsychotherapyLocal Approach to FractureCommunications scientifiques et techniquesFragile SpacesTime-Dependent Fracture MechanicsLes alliages à mémoire de formeFracture MechanicsMusic and Ultra-modernism in FranceMechanisms of Vascular DiseaseViscoplasticité, endommagement, mécanique de la rupture et mécanique du contactVierter Internationaler Kongress für Elektronenmikroskopie / Fourth International Conference on Electron Microscopy / Quatrième Congrès International de Microscopie ÉlectroniqueEssentials of Medical PhysiologyInstabilités PlastiquesFragile SpacesIntroduction to Electron Microscopy for BiologistsActes Et DocumentsScaling, Self-similarity, and Intermediate AsymptoticsContinuum Mechanics through the Ages – From the Renaissance to the Twentieth CenturyNon-Smooth ThermomechanicsFatigue and Fracture MechanicsThe Ehlers-Danlos SyndromeMécanique de propagation et de bifurcation des fissuresThe Shaping of TuscanyThe Emergence of Pressure Blade MakingFracture Mechanics and Crack GrowthThe Physics of Rock Failure and EarthquakesSovereignty Sharing in Fragile StatesThe Fragile HeartIntroduction to Hematology10th International Congress on X-ray Optics and MicroanalysisRule and RupturePouvoirs de L'horreur (English)Variational Models and Methods in Solid and Fluid MechanicsComprehensive Management of Arteriovenous Malformations of the Brain and SpineLaudato Si'CNRM.Textbook Of Practical Physiology - 2Nd Edn.Mechanics of Solid Materials

Laudato Si 'is Pope Francis' second encyclical which focuses on the theme of the environment. In fact, the Holy Father in his encyclical urges all men and women of good will, the rulers and all the powerful on earth to reflect deeply on the theme of the environment and the care of our planet. This is our common home, we must take care of it and love it - the Holy Father tells us - because its end is also ours.Les objectifs de la mécanique de la rupture sont double, d'une part ils concernent la description des champs mécaniques au voisinage de la pointe de la fissure et les énergies qui leur sont associées et d'autre part, ils traitent de l'évaluation de la nocivité d'une fissure en terme de la propagation de celle-ci. Deux champs d'étude constituent la structure de cet ouvrage, l'un relatif à la modélisation de la singularité induite par la pointe d'une fissure qui est relatée dans le premier tome intitulé : Modélisation des champs mécaniques en pointe de fissure et des singularités. Après un premier volume intitulé "Mécanique de la rupture par fissuration", ce deuxième tome traite des critères de propagation et de bifurcation de fissure en milieu élastique et élastoplastique sous des chargements monotones (Rupture fragile) et dynamique (Rupture par Fatigue). Les solutions analytiques obtenues ne peuvent pas être utilisées dans les structures à géométrie et conditions aux limites variées, alors il sera nécessaire de faire appel aux méthodes d'analyse numérique et plus particulièrement à la méthode des éléments finis. Deux chapitres abordent ces applications numériques : l'un, en tome I, relatif à l'introduction au calcul par éléments finis des structures fissurées et l'autre, dans le tome II traitant de la prévision de la rupture par fissuration des éléments de structures métalliques soumises à la fatigue.This book consists of a range of essays covering the complex crises, tensions and dilemmas but also the positive potential in the meeting of Jews with Western culture. In numerous contexts and through the work of fascinating individuals and thinkers, the work examines some of the consequences of political, cultural and personal rupture, as well as the manifold ways in which various Jewish intellectuals, politicians (and occasionally spies!) sought to respond to these ruptures and carve out new, sometimes profound, sometimes fanciful, options of thought and action. It also delves critically into the attacks on liberal and Enlightenment humanism. In almost all the essays the fragility of things is palpably present and the book touches on some of the ironies, problematics and functions of responses to that condition. The work mirrors the author's ongoing fascination with the always fraught, fragile and creatively fecund confrontation of Jews (and others) with European modernity, its history, politics, culture and self-definition. In a time of increasing anxiety and feelings of fragility, this work may be helpful in understanding how people at an earlier (and sometimes contemporary) period sought to come to terms with a similar predicament.Concevoir de nouveaux matériaux de structure, allonger la durée de vie des pièces, éviter les ruptures en service font partie des préoccupations majeures des ingénieurs. Une bonne maîtrise du comportement mécanique des matériaux est essentielle pour aboutir à ce résultat. Cet ouvrage aborde ce sujet dans les domaines de la viscoplasticité, de l'endommagement, de la résistance à la fissuration et de la mécanique du contact. Faisant suite à un précédent volume sur le comportement mécanique des matériaux, consacré à l'élasticité et à l'élastoplasticité, il conserve la même démarche qui consiste, en partant des mécanismes actifs à l'échelle microscopique, à remonter aux lois macroscopiques. Le

premier chapitre concerne les comportements viscoplastiques qui se manifestent, par exemple, à basse température, par une influence de la vitesse de sollicitation, ou, à haute température, par le fluage sous charge constante. Le deuxième chapitre traite des très nombreux phénomènes d'endommagement que l'on rencontre dans tous les matériaux (métalliques, polymères, verres, bétons), comme la cavitation, la fatigue, la corrosion sous contrainte. Le troisième chapitre donne les notions de mécanique de la rupture nécessaires pour comprendre la résistance de la fissuration. Le quatrième chapitre apporte les notions principales de mécanique du contact. Chaque chapitre est suivi d'exercices, énoncés de telle sorte que le lecteur est guidé pas à pas pour trouver la solution. De très nombreuses illustrations facilitent la lecture. Comportement mécanique des matériaux est le fruit du DEA "Mécanique et Matériaux" de la région parisienne. Il s'adresse aussi aux élèves-ingénieurs, ingénieurs et chercheurs. Les développements mathématiques y sont d'un accès facile. Les réelles difficultés, dont la maîtrise n'est pas exempte d'aspects passionnants, résident dans les fréquents changements d'échelle et dans le sens physique auquel il est fait appel.Vascular malformations of the brain and spine pose many management challenges. This text provides a comprehensive, state-of-the-art review of the natural history, treatment options, and outcomes of patients with these conditions. Despite their relative rarity, these lesions are responsible for devastating injury to individuals and can cause an enduring physical, psychological, and economic burden on patients and families. Many new therapeutic options are now available with the advent of novel surgical, endovascular, and radiosurgical techniques. The basic sciences have fuelled development of small molecule and biologic therapies targeting the molecular basis of disease. Authored by international experts in the fields of neurosurgery, neurology, radiology, and radiation oncology, this book provides state-of-the-art treatment plans and discussions of ideal therapy. This text is aimed at practitioners in the fields of neurology, neurosurgery, neuroradiology, radiation oncology, rehabilitation medicine and allied fields who care for patients with brain and spinal vascular malformations.Mixing scientific, historic and socio-economic vision, this unique book complements two previously published volumes on the history of continuum mechanics from this distinguished author. In this volume, Gérard A. Maugin looks at the period from the renaissance to the twentieth century and he includes an appraisal of the ever enduring competition between molecular and continuum modelling views. Chapters trace early works in hydraulics and fluid mechanics not covered in the other volumes and the author investigates experimental approaches, essentially before the introduction of a true concept of stress tensor. The treatment of such topics as the viscoelasticity of solids and plasticity, fracture theory, and the role of geometry as a cornerstone of the field, are all explored. Readers will find a kind of socio-historical appraisal of the seminal contributions by our direct masters in the second half of the twentieth century. The analysis of the teaching and research texts by Duhem, Poincaré and Hilbert on continuum mechanics is key: these provide the most valuable documentary basis on which a revival of continuum mechanics and its formalization were offered in the late twentieth century. Altogether, the three volumes offer a generous conspectus of the developments of continuum mechanics between the sixteenth century and the dawn of the twenty-first century. Mechanical engineers, applied mathematicians and physicists alike will all be interested in this work which appeals to all curious scientists for whom continuum mechanics as a vividly evolving science still has its own mysteries.Between June 6-10, 1988, the Third Chemical Congress of North America was held at the Toronto Convention Center. At this rare gathering, fifteen thousand scientists attended various symposia. In one of the symposia, Professor Pierre-Gilles de Gennes of College de France was honored as the 1988 recipient of the Amer ican Chemical Society Polymer Chemistry Award, sponsored by Mobil Chemical Corporation. For Professor de Gennes, this international setting could not be more fitting. For years, he has been a friend and a lecturer to the world scientific community. Thus, for this special occasion, his friends came to recount many of his achievements or report new research findings mostly derived from his theories or stimulated by his thoughts. In this volume of Proceedings, titled New Trends in Physics and Physical Chemistry of Polymers, we are glad to present the revised papers for the Symposium and some contributed after the Symposium. In addition, we intend to include most of the lively discussions that took plaGe during the conference. This volume contains a total of thirty-six papers divided into six parts, primarily according to the nature of the subject matter: • Adsorption of Colloids and Polymers. • Adhesion, Fractal and Wetting of Polymers. • Dynamics and Characterization of Polymer Solutions. • Diffusion and Interdiffusion of Polymers. • Entanglement and Reptation of Polymer Melts and Networks. • Phase Transitions and Gel Electrophoresis."Physical modelling of earthquake generation processes is essential to further our understanding of seismic hazard. However, the scale-dependent nature of earthquake rupture processes is further complicated by the heterogeneous nature of the crust. Despite significant advances in the understanding of earthquake generation processes, and the derivation of underlying physical laws, controversy remains regarding what the constitutive law for earthquake ruptures ought to be, and how it should be formulated. It is extremely difficult to obtain field data to define physical properties

along a fault during a rupture event, at sufficiently high spatial and temporal resolution to resolve the controversy. Instead, laboratory experiments offer a means of obtaining high-resolution measurements that allow the physical nature of shear rupture processes to be deduced. This important new book is written using consistent notation, providing a deeper understanding of earthquake processes from nucleation to their dynamic propagation. Its key focus is a deductive approach based on laboratory-derived physical laws and formulae, such as a unifying constitutive law, a constitutive scaling law, and a physical model of shear rupture nucleation. Topics covered include: the fundamentals of rock failure physics, earthquake generation processes, physical scale dependence, and large-earthquake generation cycles and their seismic activity"--Translation of hugely successful book aimed at advanced undergraduates, graduate students and researchers.Rule and Rupture - State Formation Through the Production of Property and Citizenship examines the ways in which political authority is defined and created by the rights of community membership and access to resources. Combines the latest theory on property rights and citizenship with extensive fieldwork to provide a more complex, nuanced assessment of political states commonly viewed as "weak," "fragile," and "failed" Contains ten case studies taken from post-colonial settings around the world, including Cambodia, Nepal, Indonesia, Afghanistan, Rwanda, Somalia, Democratic Republic of Congo, Colombia, and Bolivia Characterizes the results of societal ruptures into three types of outcomes for political power: reconstituted and consolidated, challenged, and fragmented Brings together exciting insights from a global group of scholars in the fields of political science, development studies, and geographyDie vorliegenden Verhandlungen des IV. Internationalen Kongresses für Elektronenmikro· skopie, der unter den Auspizien der International Federation 0/ Electron Microscope Societies im Jahre 1958 in Berlin stattfand, veranschaulichen, in welchem Ausmaß die Elektronenmikroskopie in den letzten Jahren für viele Bereiche der Forschung an Bedeutung gewonnen hat. Etwa 400 Vorträge und einige Diskussionsbemerkungen, vor mehr als 1000 Teilnehmern aus 26 Ländern gehalten, waren zu veröffentlichen, wenn wir der Tradition der früheren Internationalen Kongresse in Delft (1949), in Paris (1950) und in London (1954) treu bleiben wollten. Zum ersten Male war es nicht möglich, alle auf einem Internationalen Kongreß für Elektronenmikroskopie gehaltenen Vorträge in einem einzigen Band zusammenzufassen. Der 1. Band dieser Verhandlungen enthält sowohl die Arbeiten zur Theorie der Elektronenmikroskopie und über die physikalische sowie technische Weiterentwicklung der Geräte, als auch Mitteilungen über die Anwendung des Elek· tronenmikroskops zur Erforschung kristallographischer und technologischer Probleme ein· schließlich der Präparationstechnik. Der 11. Band bringt die Arbeiten über die Anwendung des Elektronenmikroskops zur Lösung biologischer und medizinischer Fragestellungen und über die entsprechenden Prä parationsverfahren. In Abweichung von der Reihenfolge, in der die Vorträge auf dem Kongreß gehalten wurden, waren wir bemüht, die Mitteilungen nach ihrem Sinnzusammenhang in kleinere Sachgruppen einzuordnen, um ein leichtes und schnelles Auffinden zusammengehöriger Themen zu ermöglichen. Die Inhaltsverzeichnisse, die beiden Bänden beigefügt sind, vermitteln eine ausreichende Über. sicht. Jeder Band enthält ein alphabetisches Mitarbeiterverzeichnis. Die Deutsche Gesellschaft für Elektronenmikroskopie, die veranstaltende Organisation, begrüßte mit dankbarer Anerkennung, daß der Springer.This book shows how the seemingly immutable Tuscan landscape was largely shaped by modern conflicts over economic resources and cultural meanings.Human development is a long and steady process that began with stone tool making. Because of this skill, humans were able to adapt to climate changes, discover new territories, and invent new technologies. "Pressure knapping" is the common term for one method of creating stone tools, where a larger device or blade specifically made for this purpose is use to press out the stone tool. Pressure knapping was invented in different locations and at different points in time, representing the adoption of the Neolithic way of life in the Old world. Recent research on pressure knapping has led for the first time to a global thesis on this technique. The contributors to this seminal work combine research findings on pressure knapping from different cultures around the globe to develope a cohesive theory. This contributions to this volume represents a significant development to research on pressure knapping, as well as the field of lithic studies in general. This work will be an important reference for anyone studying the Paleolithic, Mesolithic, and Neolithic periods, lithic studies, technologies, and more generally, cultural transmission.Based on practical problems in mechanical engineering, here the author develops the fundamental concepts of non-smooth mechanics and introduces the necessary background material needed to deal with mechanics involving discontinuities and non-smooth constraints.Intended for engineers, researchers, and graduate students dealing with materials science, structural design, and nondestructive testing and evaluation, this book represents a continuation of the author's "Fracture Mechanics" (1997). It will appeal to a variety of audiences: The discussion of design codes and procedures will be of use to practicing engineers, particularly in the nuclear, aerospace, and pipeline industries; the extensive bibliography and discussion of recent results will make it a useful reference for academic researchers; and graduate students will find the clear explanations and worked examples useful for learning the field. The book begins with a general treatment of

*fracture mechanics in terms of material properties and loading and provides up-to-date reviews of the ductile-brittle transition in steels and of methods for analyzing the risk of fracture. It then discusses the dynamics of fracture and creep in homogeneous and isotropic media, including discussions of high-loading-rate characteristics, the behavior of stationary cracks in elastic media under stress, and the propagation of cracks in elastic media. This is followed by an analysis of creep and crack initiation and propagation, describing, for example, the morphology and incubation times of crack initiation and growth and the effects of high temperatures. The book concludes with treatments of cycling deformation and fatigue, creep-fatigue fractures, and crack initiation and propagation. Problems at the end of each chapter serve to reinforce and test the student's knowledge and to extend some of the discussions in the text. Solutions to half of the problems are provided.This volume demonstrates how cellular and associated electron microscopy contributes to knowledge about biological structural information, primarily at the nanometer level. It presents how EM approaches complement both conventional structural biology (at the high end, angstrom level of resolution) and digital light microscopy (at the low end, 100-200 nanometers). *Basic techniques in transmission and scanning electron microscopy *Detailed chapters on how to use electron microscopy when dealing with specific cellular structures, such as the nucleus, cell membrane, and cytoskeleton *Discussion on electron microscopy of viruses and virus-cell interactionsExploring the ideas of consensus, resistance and rupture, this book contributes an important and nuanced reflection to the current debate on modernism in music.F. dell'Isola, L. Placidi: Variational principles are a powerful tool also for formulating field theories. - F. dell'Isola, P. Seppecher, A. Madeo: Beyond Euler-Cauchy Continua. The structure of contact actions in N-th gradient generalized continua: a generalization of the Cauchy tetrahedron argument. - B. Bourdin, G.A. Francfort: Fracture. - S. Gavrilyuk: Multiphase flow modeling via Hamilton's principle. - V. L. Berdichevsky: Introduction to stochastic variational problems. - A. Carcaterra: New concepts in damping generation and control: theoretical formulation and industrial applications. - F. dell'Isola, P. Seppecher, A. Madeo: Fluid shock wave generation at solid-material discontinuity surfaces in porous media. Variational methods give an efficient and elegant way to formulate and solve mathematical problems that are of interest to scientists and engineers. In this book three fundamental aspects of the variational formulation of mechanics will be presented: physical, mathematical and applicative ones. The first aspect concerns the investigation of the nature of real physical problems with the aim of finding the best variational formulation suitable to those problems. The second aspect is the study of the well-posedeness of those mathematical problems which need to be solved in order to draw previsions from the formulated models. And the third aspect is related to the direct application of variational analysis to solve real engineering problems.Models allowing the prediction of the failure of structures by crack propagation were first introduced in the 50's using linear fracture mechanics whose principles were first proposed by Griffith (1920). This approach was extended to non linear cases (plasticity and viscoplasticity) in the 70's based on the work of Rice (J or C* integrals) ; it has been largely adopted by the industry. However this so called global approach cannot deal with ail practical cases and cannot explain all experimental observations as, for instance, the warm pre-stress effect (WPS). The local approach to fracture, which relies on a fine analysis of strains, stresses and damage of highly solicited regions (cracks, notches) of structures is an alternative which allows to solve problems encountered while applying the global approach. It has been developped since the 80's in particular in France. Important reseach efforts are currently undertaken in this field in Europe (France, Germany), United States and Japan. This book presents several aspects of the local approach to fracture : damage mechanisms, experimental techniques, damage evolution law and failure criteria, modelling of damage, numerical simulation. This work is the result of a collective work carried out by the best french specialists (École des Mines de Paris, École Centrale Paris, ENS Cachan, Université de Louvain, INSA Lyon, ONERA, EDF).Intended for engineers from a variety of disciplines dealing with structural materials, this text describes the current state of knowledge. It begins by describing the fracture process at the two extremes of scale: first in the context of atomic structures, then in terms of a continuous elastic medium. Treating the fracture process in increasingly sophisticated ways, the book then considers plastic corrections and the procedures for measuring the toughness of materials. Practical considerations are then discussed, including crack propagation, geometry dependence, flaw density, mechanisms of failure by cleavage, the ductile-brittle transition, and continuum damage mechanics. The whole is rounded off with discussions of generalised plasticity and the link between the microscopic and macroscopic aspects, and problems are provided at the end of each chapter.In fragile states, domestic and international actors sometimes take the momentous step of sharing sovereign authority to provide basic public services and build the rule of law. While sovereignty sharing can help address gaps in governance, it is inherently difficult, risking redundancy, confusion over roles, and feuds between partners when their interests diverge. In Sovereignty Sharing in Fragile States, John D. Ciorciari*

sheds light on how and why these extraordinary joint ventures are created, designed, and implemented. Based on extensive field research in several countries and more than 150 interviews with senior figures from governments, the UN, donor states, and civil society, Ciorciari discusses when sovereignty sharing may be justified and when it is most likely to achieve its aims. The two, he argues, are closely related: perceived legitimacy and continued political and popular support are keys to success. This book examines a diverse range of sovereignty-sharing arrangements, including hybrid criminal tribunals, joint policing arrangements, and anti-corruption initiatives, in Sierra Leone, Cambodia, Lebanon, Timor-Leste, Guatemala, and Liberia. Ciorciari provides the first comparative assessment of these remarkable attempts to repair ruptures in the rule of law—the heart of a well-governed state.The therapeutic relationship is considered to be the most significant factor in achieving positive therapeutic change. As such, it is essential that trainee and practising therapists are able to facilitate a strong working alliance with each of their clients. This book will help them do just that, by offering a practical and evidence-based guide to all aspects of the therapeutic relationship in counselling and psychotherapy. Cross-modal in its approach, this book examines the issues impacting on the therapeutic relationship true to all models of practice. Content covered includes: - The history of the therapeutic relationship - The place of the therapeutic relationship in a range of therapy settings, including IAPT - Concepts and practical skills essential for establishing and maintaining a successful working alliance - The application of the therapeutic relationship to a variety of professional roles in health and social care - Practice issues including potential challenges to the therapeutic relationship, working with diversity and personal and professional development - Research and new developments Using examples, points for reflection and chapter aims and summaries to help consolidate learning, the authors break down the complex and often daunting topic of the therapeutic relationship, making this essential reading for trainee and practising therapists, as well as those working in a wider range of health, social care and helping relationships.Les alliages à mémoire de forme sont des matériaux uniques qui ont la propriété de se souvenir des traitements thermomécaniques subis (traction, torsion, flexion, etc.). Ils sont très utilisés dans l'industrie biomédicale, l'aéronautique ou le nucléaire. Cet ouvrage traite de leur compréhension physique et mécanique, et de leur utilisation, en se concentrant principalement sur la nature de la transformation martensitique, expliquée à travers les théorèmes de Ball et James. Les modèles macroscopiques à variables internes donnent les clés pour le calcul des structures en alliage à mémoire de forme, particulièrement utile pour l'utilisation industrielle de ces matériaux. Professeur à l'Ecole nationale supérieure de mécanique et des microtechniques de Besançon, Christian Lexcellent mène des recherches depuis plus de 20 ans sur les alliages à mémoire de forme. Ses enseignements portent sur le comportement linéaire et non-linéaire des matériaux.The Second Edition Of The Book Provides Even More Application Orientation. All The Chapters Have Been Thoroughly Revised. The Information Has Been Brought Up-To-Date By Incorporating The Latest Concepts And Developments In The Subject. Some Of The Chapters That Were Not Strictly Essential For Routine Practicals Have Been Omitted. The Hematology Section Has Been Thoroughly Updated. The Section On Mammalian Physiology Has Been Further Trimmed As Per The Recommendations Of The Mci. A New Chapter 'Clinical Examination Of The Gi System' Has Been Incorporated.Jai when in school, poured his heart out in a letter which he wrote for Geeta whom he was in love with. But fate has its own plans and she disappears abruptly, leaving him distressed and broken. Years later, Jai moves to Bangalore for further studies and there he meets Riya, his junior who tries to fill the void in his life. The two soon get into a relationship. Life makes an unexpected twist when Jai shifts to Mumbai for his job and meets someone from the past. Torn between his past and present, what will Jai do? Read The Fragile Heart to know more.New updated edition first published with Cambridge University Press. This new edition includes 29 chapters on topics as diverse as pathophysiology of atherosclerosis, vascular haemodynamics, haemostasis, thrombophilia and post-amputation pain syndromes.This book consists of a range of essays covering the complex crises, tensions and dilemmas but also the positive potential in the meeting of Jews with Western culture. In numerous contexts and through the work of fascinating individuals and thinkers, the work examines some of the consequences of political, cultural and personal rupture, as well as the manifold ways in which various Jewish intellectuals, politicians (and occasionally spies!) sought to respond to these ruptures and carve out new, sometimes profound, sometimes fanciful, options of thought and action. It also delves critically into the attacks on liberal and Enlightenment humanism. In almost all the essays the fragility of things is palpably present and the book touches on some of the ironies, problematics and functions of responses to that condition. The work mirrors the author's ongoing fascination with the always fraught, fragile and creatively fecund confrontation of Jews (and others) with European modernity, its history, politics, culture and self-definition. In a time of increasing anxiety and feelings of fragility, this work may be helpful in understanding how people at an earlier (and sometimes contemporary) period sought to come to terms with a similar predicament.This book presents recent advances related to the following two topics:

how mechanical fields close to material or geometrical singularities such as cracks can be determined; how failure criteria can be established according to the singularity degrees related to these discontinuities. Concerning the determination of mechanical fields close to a crack tip, the first part of the book presents most of the traditional methods in order to classify them into two major categories. The first is based on the stress field, such as the Airy function, and the second resolves the problem from functions related to displacement fields. Following this, a new method based on the Hamiltonian system is presented in great detail. Local and energetic approaches to fracture are used in order to determine the fracture parameters such as stress intensity factor and energy release rate. The second part of the book describes methodologies to establish the critical fracture loads and the crack growth criteria. Singular fields for homogeneous and non-homogeneous problems near crack tips, v-notches, interfaces, etc. associated with the crack initiation and propagation laws in elastic and elastic-plastic media, allow us to determine the basis of failure criteria. Each phenomenon studied is dealt with according to its conceptual and theoretical modeling, to its use in the criteria of fracture resistance; and finally to its implementation in terms of feasibility and numerical application. Contents 1. Introduction. Part 1: Stress Field Analysis Close to the Crack Tip 2. Review of Continuum Mechanics and the Behavior Laws. 3. Overview of Fracture Mechanics. 4. Fracture Mechanics. 5. Introduction to the Finite Element Analysis of Cracked Structures. Part 2: Crack Growth Criteria 6. Crack Propagation. 7. Crack Growth Prediction in Elements of Steel Structures Submitted to Fatigue. 8. Potential Use of Crack Propagation Laws in Fatigue Life Design.This book deals with a non-traditional exposition of dimensional analysis, physical similarity theory and general theory of scaling phenomena.Ehlers-Danlos Syndrom.Essay