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Autore	Decolon Christian
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Formato	Materiale a stampa
Livello bibliografico	Monografia
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Nota di contenuto	Front Cover; Analysis of Composite Structures; Copyright Page; Contents; Foreword; Part I: Mechanical behaviour of composite materials; Chapter 1. Constitutive relations for anisotropic materials in linear elasticity; 1.1. Introduction; 1.2. Four indices tensor notation; 1.3. Conventional two indices Voigt notation; 1.4. Anisotropic material; 1.5. Matrix relations for a change of axes; Chapter 2. Orthotropic layer behaviour; 2.1. Introduction; 2.2. Stiffness and compliance matrices in orthotropic co-ordinates; 2.3. Conventional matrices for changing axes; 2.4. Stress and strain matrices 2.5. Stiffness matrix in directions away from the orthotropic axes 2.6. Compliance matrix in directions away from the orthotropic axes; 2.7. Orthotropic layer loaded in tension and in shear; 2.8. Reduced stiffness matrix for the orthotropic layer; 2.9. Reduced compliance matrices of an orthotropic layer; Chapter 3. Elastic constants of a unidirectional composite; 3.1. Introduction; 3.2. Density ρ ; 3.3. Longitudinal Young's modulus E_1 ; 3.4. Poisson's coefficient ν_{12} ; 3.5. Transverse Young's modulus E_2 ; 3.6. Shear modulus G_{12} ; 3.7. Longitudinal thermal expansion coefficient α_1 3.8. Transverse expansion coefficient α_2 Chapter 4. Failure criteria; 4.1. Introduction; 4.2. Maximum stress theory; 4.3. Maximum strain theory; 4.4. Polynomial failure criteria; 4.5. Tensile and shear strength of a

unidirectional layer; 4.6. Determination of failure stresses from three tension tests; Part II: Multi-layer plates; Chapter 5. Multi-layer Kirchhoff-Love thin plates; 5.1. Introduction; 5.2. Kirchhoff-Love hypotheses for thin plates; 5.3. Strain-displacement relationships; 5.4. Global plate equations; 5.5. Calculation of I_0 ; 5.6. Stress field; 5.7. Global cohesive forces
5.8. Composite global stiffness matrix
5.9. Decoupling; 5.10. Global stiffnesses of a symmetrical composite; 5.11. Global stiffnesses for an asymmetrical laminate; 5.12. Examples of global stiffness matrices; 5.13. Boundary conditions; 5.14. Determination of transverse shear stresses; 5.15. Strain energy; Chapter 6. Symmetrical orthotropic Kirchhoff-Love plates; 6.1. Introduction; 6.2. Global plate equations; 6.3. Plate loaded in the mean plane; 6.4. Plate loaded transversely; 6.5. Flexure of a rectangular plate simply supported around its edge
6.6. Free vibrations of a rectangular plate freely supported at its edge
6.7. Buckling of a rectangular plate simply supported at its edge; Chapter 7. Thermo-elastic behaviour of composites; 7.1. Introduction; 7.2. Constitutive relation for an orthotropic material; 7.3. Constitutive relation when the normal transverse stress is zero; 7.4. Global cohesion forces; 7.5. Global composite constitutive relation; 7.6. Decoupling; 7.7. Balanced symmetrical composite loaded in the mean plane; Chapter 8. Symmetrical orthotropic Reissner-Mindlin plates; 8.1. Introduction
8.2. Moderately thick plate, Reissner-Mindlin assumptions

Sommario/riassunto

This book provides the basis for calculations of composite structures, using continuum mechanics to facilitate the treatment of more elaborate theories. A composite structure combines traditional materials (such as concrete) with new materials (such as high performance fibres) to explore and develop new structures. The author deals with individual layers in laminate composites, discussing the basic laws that govern mixtures. Recommended for both student and professional use. A systematic, compact presentation in a single volume. Covers the governing equations of composite

2. Record Nr.	UNINA9910825406003321
Autore	Butler John M.
Titolo	Advanced topics in forensic dna typing : interpretation // John M. Butler
Pubbl/distr/stampa	Oxford, England ; ; San Diego, California : , : Academic Press, , 2015 © 2015
ISBN	0-12-405854-X
Descrizione fisica	1 online resource (609 pages)
Disciplina	614.1
Soggetti	DNA Fingerprinting - methods DNA - physiology Forensic Genetics - methods
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1 - Data Interpretation Overview. - Chapter 2 - Data, Models, Thresholds. - Chapter 3 - STR Alleles and Amplification Artifacts. - Chapter 4 - STR Genotypes: Heterozygote Balance, Stochastic Thresholds, Allele, and Concordance Studies. - Chapter 5 - STR Profiles: Multiplex PCR, Tri-Alleles, Amelogenin, and Partial Profiles. - Chapter 6 - DNA Mixtures. - Chapter 7 - Low-Level DNA and Complex Mixtures. - Chapter 8 - Troubleshooting Data Collection. - Chapter 9 - Statistical Interpretation Overview. - Chapter 10 - STR Population Data Analysis. - Chapter 11 - DNA Profile Frequency Estimates and Match Probabilities. - Chapter 12 - DNA Mixture Statistics. - Chapter 13 - Coping with Potential Missing Alleles. - Chapter 14 - Relationship Testing: Kinship Statistics. - Chapter 15 - Lineage Marker Statistics. - Chapter 16 - Laboratory Reports: Communicating Results and Conclusions. - Appendix 1 - STR Allele Frequencies from U.S. Population Data. - Appendix 2 - NRC I & NRC II Recommendations. - Appendix 3 - DAB Recommendations on Statistics. - Appendix 4 - Worked Mixture Example
Sommario/riassunto	This book builds upon the previous two editions of John Butler's internationally acclaimed Forensic DNA Typing textbook with forensic DNA analysts as its primary audience. Intended as a third-edition

companion to the Fundamentals of Forensic DNA Typing volume published in 2010 and Advanced Topics in Forensic DNA Typing: Methodology published in 2012, this book contains 16 chapters with 4 appendices providing up-to-date coverage of essential topics in this important field. Over 80 % of the content of this book is new compared to previous editions.
