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Autore	Iordache Octavian
Titolo	Evolvable designs of experiments [[electronic resource]] : applications for circuits / / Octavian Iordache
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Descrizione fisica	1 online resource (232 p.)
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Soggetti	Chemical engineering - Mathematical models Experimental design Printed circuits - Design and construction Electronic books.
Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 205-210) and index.
Nota di contenuto	Evolvable Designs of Experiments: Applications for Circuits; Contents; Preface; Abbreviations; Part One Introduction; 1 Printed Circuits; 1.1 Technology Presentation; 1.2 Inner-Layer Processing; 1.3 Materials Preparation; 1.4 Lamination; 1.5 Drilling; 1.6 Making the Hole Conductive; 1.7 Imaging; 1.8 Electroplating; 1.9 Copper Etching; 1.10 Solder Masking; 1.11 Surface Finishing; 1.12 Routing; 1.13 Testing and Inspection; 1.14 Assembling; 2 Problem Solving for Reliability and Quality; 2.1 Conventional Paradigms; 2.2 Complexity and Time Frames; 2.3 Quasilinearity, Circularity, and Closure 2.4 Advance of Reliability ParadigmsPart Two Evolvable Designs of Experiments (EDOE); 3 Polystochastic Models; 3.1 What Is PSM?; 3.2 Basic Notions for Categorical Frame; 3.3 Illustrative Examples of PSM and Categorical Frames; 3.3.1 Lumped Stochastic Chains; 3.3.2 Conditional Stochastic Chains; 4 First-Order Wave Equation; 4.1 Algebraic Frames for Time"T"and Space"Z"; 4.2 The First-Order Wave Equation; 4.3 "Kinetic"Model: Walsh-Hadamard Matrices; 4.4 "Convection"Model: Latin Squares; 4.4.1 GF(3) Solution; 4.4.2 GF(4)

Solution; 4.5 Spectral Analysis: Correlation
5 Informational Analysis: EDOE Matrices5.1 Walsh-Hadamard Matrices and Latin Square Designs; 5.2 Classification Procedures: Informational Criteria; 5.3 Informational Entropy and Distances; 5.4 Adaptability in Classification; 5.5 Informational Results; 5.5.1 Proposition 1; 5.5.2 Proposition 2; 5.5.3 Proposition 3; 5.6 Relation with Thermodynamics; 5.7 Ranking, Discarding, and Replication of the Columns; 5.8 Lumping and Splitting Columns; 5.9 Juxtaposing and Cutting; 5.10 Tables of DOE Matrices; 6 EDOE Methodology; 6.1 Scientific and Engineering Methods; 6.2 Center Design and Hierarchy
6.3 Recursivity and Focusing6.4 Problem-Solving Framework for PCB Quality; 6.5 Forward and Backward Search; 6.6 Interactions: Dissociation-Integration; 6.7 EDOE Basic Steps; 6.7.1 Problem Statement; 6.7.2 Propose the Preliminary Problem-Solving Framework; 6.7.3 Select the DOE Matrices; 6.7.4 Run Center Design; 6.7.5 Analyze Results; 6.7.6 Run Multiple Forward and Backward Steps; 6.7.7 Perform Dissociation-Integration Experiments; 6.7.8 Establish the New Center Design; 6.7.9 Repeat the Testing Procedure from the New Center Design; 6.7.10 Run Simulations: Analyze the Solutions of the Problem
6.8 EDOE Frame and SKUP Schema6.9 Comparison of EDOE with other Methods; Part Three Case Studies; 7 Solder Wicking; 7.1 Illustrative Failure Analysis; 7.2 Illustrative EDOE Frame; 7.3 SKUP Schema for Solder Wicking; 8 Reliability Analysis; 8.1 EDOE for Reliability; 8.2 SKUP Schema for Reliability; 8.3 Reliability Management System: Main Elements; 8.4 Reliability Prediction Software; 8.5 Minicoupons; 8.6 Reliability Analysis; 8.7 IST Electrical Resistance Analysis; 9 Drilling; 9.1 Drilling Quality Framework; 9.2 Test Coupons; 9.3 Testing Small Plated Through Holes: SKUP Schema for Drilling
9.4 Reliability Tests

Sommario/riassunto

Adopting a groundbreaking approach, the highly regarded author shows how to design methods for planning increasingly complex experiments. He begins with a brief introduction to standard quality methods and the technology in standard electric circuits. The book then gives numerous examples of how to apply the proposed methodology in a series of real-life case studies. Although these case studies are taken from the printed circuit board industry, the methods are equally applicable to other fields of engineering.

2. Record Nr. UNINA9910794838003321

Titolo	Lp-square function estimates on spaces of homogeneous type and on uniformly rectifiable sets / / Steve Hofmann [ad three others]
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ISBN	1-4704-3607-8
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Collana	Memoirs of the American Mathematical Society, , 1947-6221 ; ; Volume 245, Number 1159 (fourth of 6 numbers)
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Soggetti	Homogeneous spaces Lie groups Function spaces Geometric measure theory
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Analysis and geometry on quasi-metric spaces -- T(1) and local T(b) theorems for square functions -- An inductive scheme for square function estimates -- Square function estimates on uniformly rectifiable sets -- Lp square function estimates.