

1. Record Nr.	UNINA9910785886703321
Autore	Ramu T. S
Titolo	Diagnostic testing and life estimation of power equipment [[electronic resource] /] / T.S. Ramu
Pubbl/distr/stampa	Tunbridge Wells [England], : New Academic Science, c2012
ISBN	1-5231-1872-5 1-906574-60-X
Descrizione fisica	1 online resource (311 p.)
Soggetti	Electric power systems - Equipment and supplies Electric power systems - Reliability
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.
Nota di contenuto	<p>""Cover ""; ""Preface ""; ""Contents ""; ""Introduction""; ""Chapter 1 Dielectric Behaviour in Electric and Thermal Fields ""; ""1.1 Introduction ""; ""1.2 Mechanism of Electrical Conduction in Matter ""; ""1.2.1 Conduction in Metals""; ""1.2.2 Conduction in Dielectrics""; ""1.3 Charge Storage in Dielectrics ""; ""1.3.1 Electric Field between Charged Conducting Planes""; ""1.3.2 The Concept of Permittivity""; ""1.3.3 The Electric Dipole""; ""1.3.4 Structure of Dielectrics""; ""1.3.5 A Rigid Dipole in a Uniform External Field""; ""1.3.6 Energy in an Electrostatic Field"" ""1.3.7 Interfacial Polarisation""""1.4 Non-Ideal Dielectrics ""; ""1.5 Behaviour of Dielectric in Time Varying Fields ""; ""1.5.1 The Concept of Complex Permittivity""; ""1.5.2 Frequency and Temperature Response of Dielectrics""; ""1.5.2.1 Frequency Response""; ""1.5.2.2 The Temperature Response""; ""1.5.3 Equivalent Circuits""; ""1.5.3.1 Equivalence of Parallel and Series Representations""; ""1.6 Conduction in Dielectrics ""; ""1.6.1 The Volume Conductivity""; ""1.6.2 Surface Conductivity""; ""1.7 Breakdown in Dielectrics ""; ""1.7.1 Breakdown Mechanisms in Gases""</p> <p>""1.7.1.1 Electronegative Gases""""1.7.1.2 Paschena's Law""; ""1.7.2 Conduction and Breakdown in Liquids""; ""1.7.3 Breakdown Mechanisms in Solids""; ""1.7.3.1 Surface Breakdown""; ""1.7.3.2 Tracking in Solid Electrical Insulation""; ""1.7.3.3 Intrinsic Breakdown""; ""1.7.3.4 Breakdown in Commercial Dielectrics""; ""1.7.3.5 Breakdown due to</p>

Treeing"; "1.7.4 Corona and Partial Discharges"; "1.7.4.1 Corona Discharges"; "1.7.4.2 Partial Discharges"; "1.7.5 Thermal Breakdown"; "1.7.5.1 The Steady-state Thermal Breakdown"; "1.7.6 General Theory of Thermal Breakdown in Solids"
"1.7.6.1 Thermal Breakdown in a€?Thin€? Specimens""Chapter 2 Measurement of Dielectric Parameters"; "2.1 General"; "2.2 Permittivity and tanI?"; "2.3 Volume and Surface Conductivity"; "2.4 Partial Discharge Measurements"; "2.5 Calibration of PD Measuring Circuits and Detector"; "2.6 Measurement of Dielectric Strength"; "Chapter 3 Models for Electrical Insulation Failure"; "3.1 General"; "3.2 Physical Models for Insulation Failure"; "3.3 Single Stress Modelling"; "3.3.1 Model for Ageing under Electrical Stress"; "3.3.2 Thermal Stress Model"
"3.3.3 Modelling of Mechanical Stress""3.4 Multifactor Models"; "3.4.1 Sequential Stress"; "3.4.2 Combined Stress Models"; "3.4.2.1 The Case of E + T"; "3.4.2.2 The Case of E +M"; "3.4.2.3 The Case of T + M"; "3.4.2.4 The Case of T + E + M"; "Chapter 4 Stochastic Nature of Electrical Insulation Failure"; "4.1 General"; "4.1.1 The Concept of a Random Variable (RV)"; "4.1.2 Conditional Probability"; "4.1.3 The Hazard Function"; "4.1.4 Probabilistic Aspects of Insulation Ageing"; "4.2 Statistical Aspects of Thermal Ageing"
"4.2.1 Measures of Dispersion and Central Tendencies of Probability Distributions"
