1. Record Nr. UNINA9910164279003321

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Titolo	Fatigue Testing and Analysis under Variable Amplitude Loading Conditions
Pubbl/distr/stampa	[Place of publication not identified], : American Society for Testing & Materials, 2005
ISBN	9780803155039 0803155034
Descrizione fisica	1 online resource (xiii, 585 pages) : illustrations
Collana	ASTM special technical publication ; ; 1439
Altri autori (Persone)	RanganathanNarayanaswami
Disciplina	620.1/126/0287
Soggetti	Materials - Fatigue - Testing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Principles of Variable Amplitude Fatigue Design and Testing / CM Sonsino -- Role of Variable Amplitude Fatigue Standards in Improving Structural Integrity / SW Hopkins, MR Mitchell, J Menigault -- A Framework for a Standardization Effort for Fatigue Crack Growth Testing Under Variable Amplitude Spectrum Loading / PC McKeighan, FJ McMaster -- Variable Amplitude Fatigue Crack Growth Using Digital Signal Processing Technology / JK Donald, K George -- Variable Amplitude Loading on a Resonance Test Facility / S Poting, M Traupe, J Hug, H Zenner -- Development of a DCPD Calibration for Evaluation of Crack Growth in Corner-Notched, Open-Hole Specimens / K George, HS Reemsnyder, JK Donald, RJ Bucci -- The F/A-18E/F Full-Scale Static and Fatigue Test Programs - An Overview / MG Sullentrup -- Spectrum Editing for a Full-Scale Fatigue Test of a Fighter Aircraft Wing with Buffet Loading / RL Hewitt, JP Weiss, PK Nor -- Large Commercial Aircraft Loading Spectra: Overview and State of the Art / LL Divenah, JY Beaufils -- Spectrum Fatigue Testing and Small-Crack Life Prediction Analysis on a Coupon Similar to a Critical Design Detail of a CF188 Hornet Component / M Yanishevsky, RA Everett -- Effect of Transient Loads on Fatigue Crack Growth in Solution Treated and Aged Ti-62222 at -54, 25, and 175°C / RR Stephens, RI Stephens, SC Berge, DE Lemm, CD Glancey -- Spectrum Coupon Testing of Fatigue-Resistant Fasteners for an Aging Military Aircraft / FJ McMaster, PC McKeighan --

Crack Initiation at a Notch under Constant and Selected Variable Amplitude Loading Conditions / N Gerard, R Leroy, O Girard, N Ranganathan -- Fatigue Resistance Evaluation and Crack Kinetics Study for Aero Engine Fan Blades under Random Vibration / NV Tumanov -- High Cycle Variable Amplitude Fatigue of a Nodular Cast Iron / GB Marquis, BR Rabb, P Karjalainen-Roikonen -- Prediction of Crack Growth Under Variable-Amplitude and Spectrum Loading in a Titanium Alloy / JC Newman, EP Phillips -- A Model for the Inclusion of Notch Plasticity Effects in Fatigue Crack Growth Analysis / DL Ball -- Comparisons of Analytical Crack Closure Models and Experimental Results Under Flight Spectrum Loading / RC McClung, FJ McMaster, JH Feiger -- Multi-Mechanism Synergy in Variable-Amplitude Fatigue / R Sunder, NE Ashbaugh, WJ Porter, AH Rosenberger -- Crack Growth and Closure Behavior of Short and Long Fatigue Cracks under Random Loading / J-H Song, C-Y Kim, S-Y Lee -- Calculation of Stress Intensity Factors for Cracks in Structural and Mechanical Components Subjected to Complex Stress Fields / Z Wu, G Glinka, H Jakubczak, L Nilsson -- Fatigue Life Modelling and Accelerated Tests for Components under Variable Amplitude Loads / W El-Ratal, M Bennebach, X Lin, R Plaskitt -- On the Causes of Deviation from the Palmgren-Miner Rule / AJ McEvily, S Ishihara, M Endo -- Fatigue Design and Experimentations with Variable Amplitude Loadings in the Automotive Industry / JJ Thomas, A Bignonnet, G Perroud -- High Cycle Fatigue Testing and Analysis Using Car Standard Sequence / F Morel, N Ranganathan -- Degradation Parameters and Two-Stress Block Fatigue of Angle-Ply Carbon Fiber Reinforced Epoxy / J Petermann, S Hinz, K Schulte -- Study on Fatigue Design Loads for Ships Based on Crack Growth Analysis / Y Tomita, K Hashimoto, N Osawa, K Terai, Y Wang -- Life Prediction by Observation and Simulation of Short Crack Behavior in a Low Carbon Steel / J Hunecke, D Schone -- Effect of Overloads and Underloads on Fatigue Crack Growth and Interaction Effects / F Romeiro, M de Freitas, S Pommier -- Overload Effects in Aluminum Alloys: Influence of Plasticity and Environment / N Ranganathan, A Tougui, F Lacroix, J Petit -- Periodic Overloads in the Near Threshold Regime / B Tabernig, R Pippan, J Foulquier, A Rapaport, S Sereni -- Fatigue Reliability Analysis of an Overload Effect in Welded Joints Including Crack Initiation and Plastic Zone as Random Variables / P Darcis, N Recho -- Load History in Fatigue: Effect of Strain Amplitude and Loading Path / V Aubin, P Quaegebeur, S Degallaix -- Fuzzy Probabilistic Assessment of Aging Aircraft Structures Subjected to Multiple Site Fatigue Damage / UO Akpan, PA Rushton, TE Dunbar, TS Koko -- Probabilistic and Semi-Probabilistic Format in Fatigue Ship Classification Rules / M Huther, S Maherault, G Parmentier, G Cesarine -- Comparison of the Rain Flow Algorithm and the Spectral Method for Fatigue Life Determination Under Uniaxial and Multiaxial Random Loading / T Lagoda, E Macha, A Nieslony -- Validation of Complex Wheel/Hub Subassemblies by Multiaxial Laboratory Tests Using Standardized Load Files / G Fischer -- Fatigue Life of a SG Cast Iron under Real Loading Spectra: Effect of the Correlation Factor Between Bending and Torsion / A Banvillet, T Palin-Luc, JF Vittori -- Author Index -- Subject Index.

Sommario/riassunto

Thirty-eight peer-review papers provide the latest information on fatigue testing and analysis under variable amplitude spectrum loading conditions focus purely on fatigue testing, fatigue design techniques, or a combination of both. This new ASTM publication serves as an important reference for engineers and scientists involved in structural integrity and component lifetime management.