1. Record Nr. UNINA990000290720403321

Autore	Hershey, Daniel
Titolo	Transport Analysis / Daniel Hershey
Pubbl/distr/stampa	New York : Plenum/Rosetta Edition, 1974
Descrizione fisica	X,353 p., ill., 24 cm
Disciplina	660
Locazione	DINCH
Collocazione	04 163-27
Lingua di pubblicazione	Italiano
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNISA996389270903316

Autore	Nixon Anthony
Titolo	The blacke yeare [[electronic resource]] : Seria iocis
Pubbl/distr/stampa	London, : Printed by E. Allde, for William Timme, dwelling in Pater noster-rowe, at the signe of the Flower de Luce and Crowne neere Cheapside, 1606
Descrizione fisica	[40] p
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Dedication signed: Antho: Nixon. The first leaf is blank. Signatures: A-Eâ´. Printer's device (McK. 284) on t.p. Reproduction of the original in the Folger Shakespeare Library.

Sommario/riassunto	eebo-0055

3. Record Nr. UNINA9911019315003321

Autore	Levitin Valim
Titolo	High temperature strain of metals and alloys : physical fundamentals / / Valim Levitin
Pubbl/distr/stampa	Weinheim ; ; Chichester, : Wiley-VCH, 2006
ISBN	9786610854226 9781280854224 1280854227 9783527607952 3527607951 9783527607143 3527607145
Descrizione fisica	1 online resource (181 p.)
Disciplina	620.1617 669.83
Soggetti	Metals - Effect of high temperatures on Alloys - Thermal properties
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	High Temperature Strain of Metals and Alloys; Contents; Introduction; 1 Macroscopic Characteristics of Strain of Metallic Materials at High Temperatures; 2 The Experimental Equipment and the in situ X-ray Investigation Technique; 2.1 Experimental Installation; 2.2 Measurement Procedure; 2.3 Measurements of Structural Parameters; 2.4 Diffraction Electron Microscopy; 2.5 Amplitude of Atomic Vibrations; 2.6 Materials under Investigation; 2.7 Summary; 3 Structural Parameters in High-Temperature Deformed Metals; 3.1 Evolution of Structural Parameters; 3.2 Dislocation Structure 3.3 Distances between Dislocations in Sub-boundaries3.4 Sub-boundaries as Dislocation Sources and Obstacles; 3.5 Dislocations inside Subgrains; 3.6 Vacancy Loops and Helicoids; 3.7 Total

Combination of Structural Peculiarities of High-temperature Deformation; 3.8 Summary; 4 Physical Mechanism and Structural Model of Strain at High Temperatures; 4.1 Physical Model and Theory; 4.2 Velocity of Dislocations; 4.3 Dislocation Density; 4.4 Rate of the Steady-State Creep; 4.5 Effect of Alloying: Relationship between Creep Rate and Mean-Square Atomic Amplitudes
4.6 Formation of Jogs. Low-Angle Sub-boundaries in f.c.c. and b.c.c. Crystal Lattices4.7 Significance of the Stacking Faults Energy; 4.8 Stability of Dislocation Sub-boundaries; 4.9 Scope of Application of the Theory; 4.10 Summary; 5 Simulation of the Evolution of Parameters during Deformation; 5.1 Parameters of the Physical Model; 5.2 Equations; 5.2.1 Strain Rate; 5.2.2 Change in the Dislocation Density; 5.2.3 The Dislocation Slip Velocity; 5.2.4 The Dislocation Climb Velocity; 5.2.5 The Dislocation Spacing in Sub-boundaries; 5.2.6 Variation of the Subgrain Size
5.2.7 System of Differential Equations5.3 Results of Simulation: Changes in the Structural Parameters; 5.4 Density of Dislocations during Stationary Creep; 5.5 Summary; 6 High-temperature Deformation of Superalloys; 6.1 Phase in Superalloys; 6.2 Changes in the Matrix of Alloys during Strain; 6.3 Interaction of Dislocations and Particles of the Hardening Phase; 6.4 Dependence of Creep Rate on Stress. The Average Length of the Activated Dislocation Segments; 6.5 Mechanism of Strain and the Creep Rate Equation; 6.6 Composition of the Phase and Mean-square Amplitudes of Atomic Vibrations
6.7 Influence of the Particle Size and Concentration6.8 The Prediction of Properties on the Basis of Integrated Databases; 6.9 Summary; 7 Single Crystals of Superalloys; 7.1 Effect of Orientation on Properties; 7.2 Deformation of Single-crystal Superalloys at Lower Temperatures and Higher Stress; 7.3 Deformation of Single-crystal Superalloys at Higher Temperatures and Lower Stress; 7.4 On the Composition of Superalloys; 7.5 Rafting; 7.6 Effect of Composition and Temperature on / Misfit; 7.7 Other Creep Equations; 7.8 Summary; 8 High-temperature Deformation of Some Refractory Metals
8.1 The Creep Behavior

Sommario/riassunto

Creep and fatigue are the most prevalent causes of rupture in superalloys, which are important materials for industrial usage, e.g. in engines and turbine blades in aerospace or in energy producing industries. As temperature increases, atom mobility becomes appreciable, affecting a number of metal and alloy properties. It is thus vital to find new characterization methods that allow an understanding of the fundamental physics of creep in these materials as well as in pure metals.Here, the author shows how new in situ X-ray investigations and transmission electron microscope studies lead to