

LIST OF CONTENTS

THEORY

Electron theoretical fundamentals in order disorder transformations of metallic alloys

J. Friedel 1

Electronic structure and nature of ordering in alloys of transition elements

V.E. Panin, V.P. Fadin 28

Symmetry, pair interatomic interaction and electronic states in ordering alloys

E.V. Kozlov, V.M. Dementryev, V.N. Emelyanov, N.M. Kormin, A.S. Taylashev, D.M. Stern 58

The theory of order-disorder transformations in alloys with several phase-transition points

V.V. Heychenko, A.A. Smirnov 80

Static concentration waves in the theory of order-disorder phenomena in substitutional and interstitial solid solutions

A.G. Khachatryan 114

Heterogeneity of the reactions of formation of compounds with ordered structures from solid solutions

I.I. Kornilov 132

Kinetics of order-disorder

H. Yamauchi, D. de Fontaine 148

EXPERIMENT

The microstructure of order-disorder transitions	
L.E. Tanner, H.J. Leamy	180
On the long-period ordered alloys	
S. Ogawa	240
Order-disorder transformations of interstitial solutes in transition metals of IV and V groups	
M. Hirabayashi, S. Yamaguchi, H. Asano, K. Hiraga	266
Supplement: Ordering of oxygen in vanadium	
M. Cambini	303
Modern problems of short-range order	
V.I. Iveronova, A.A. Katsnelson	306
On structural interpretation of short range order	
S.K. Das, G. Thomas	332
Atomic order-disorder information from magnetic data	
S. Mishra, P.A. Beck	344

PROPERTIES AND APPLICATIONS

The effect of atomic order on the mechanical properties of alloys with emphasis on FeCo	
M.J. Marcinkowski	364
Work-hardening of ordered alloys	
L.E. Popov, N.A. Koneva	404
The influence of ordering on the engineering properties of two phase alloys	
Part I - Mechanical properties of γ' precipitation hardened nickel-base superalloys	
B.H. Kear	440

Part II - Ordering effects in directionally solidified eutectic alloys	
N.S. Stoloff	476
Applications of atomic ordering reactions	
J.H. Westbrook	494
APPENDIX: Titles of research papers presented at the Symposium	
Statistical thermodynamics of ordering	540
Effects of electronic structure in ordering	541
Development of the microstructures of ordered states	542
Superlattice structures	545
Effects of microstructures of ordered states on magnetic domain structures	545
Kinetics of ordering	546
Local order	547
Effects of ordering on mechanical properties	549
SUBJECT INDEX	550