

Table of Contents

Parameters of Interaction with Vacancies in Tungsten of Homovalent Atomic Probes from the VIB and VIIB Groups of the Periodic Table S.M. Klotsman, G.N. Tatarinova and A.N. Timofeev	1
Study of Production Defects in Pure Aluminum and 3003 Aluminum Alloy by Electrical Measurements N.A. Kamel	11
Study of Nanocrystalline NiAl Alloys Prepared by Mechanical Alloying M. Gherib, A. Otmani, A. Djekoun, A. Bouasla, M. Poulain and M. Legouira	19
Estimating the Activation Enthalpy for Defect Formation in 5754 Alloys by Using Nuclear, Electrical and Mechanical Methods A.M. Ibrahim, E.M. Hassen, M.A. Abdel-Rahman and E.A. Badawi	29
Defect Analysis of 316LSS during the Powder Injection Moulding Process M.R. Raza, F. Ahmad, M.A. Omar, R.M. German and A.S. Muhsan	35
Effect of Hydrogen on the Microhardness of Tin Brass Heat Exchanger Tube A.S. El-Amoush	45
Correlation between Nuclear and Electrical Methods for Estimating the Activation Enthalpy of Defect Formation in 2024 Alloys A.A. Refaey, M. El-Sayed, M.A. Abdel-Rahman, N.A. Kamel, Y.A. Lotfy and E.A. Badawi	55
Artificial Ageing Effect on Mechanical, Electrical Properties and Positron Lifetime of Aircraft 2024 Alloy A.A. Refaey, M.A. Abdel-Rahman and E.A. Badawi	63
Natural Convection Flow Simulation of Nanofluid in a Square Cavity Using an Incompressible Generalized Lattice Boltzmann Method A.R. Rahmati, S. Niazi and M.N. Beni	69
A Review of some Theoretical Models for Point Defect Calculations A. Ghorai	81
The Diffusion Problem of New Phase Inclusion Growth in Bounded Regions of Oversaturated Solid Solution S.I. Sidorenko, A.A. Berezovsky, S.M. Voloshko, S.O. Zamulko and S.I. Konorev	99
Pressureless Sintering and Characterization of Al₂O₃-SiO₂-ZrO₂ Composite G. Mebrahitom Asmelash and O. Mamat	113
Electrical Properties of Zr-Doped La₂O₃ Nanocrystallites as a Good Gate Dielectric A. Bahari, R. Gholipur and Z. Khorshidi	129
Effect of Post-Deposition Annealing on some Optical Properties of Thermally-Evaporated V₂O₅ Thin Film S.A. Aly	139
Electrical Conductivity and Phase Transition Studies in the ZrO₂-CdO System S. Beg and S. Haneefaa	147
Growth of ZnO Thin Films on Silicon Substrates by Atomic Layer Deposition R. Hussin, X.H. Hou and K.L. Choy	159
Observation of Dielectric Peaks in Glassy Se₇₀Te₂₀Sn₁₀ Alloy A. Sharma and N. Mehta	165
Theoretical Investigation of the Spin Hamiltonian Parameters for the Tetragonal [Fe(CN)₄Cl₂]⁵⁻ Complex in NaCl B.T. Song, S.Y. Wu, M.Q. Kuang and Y.X. Hu	177
Abstracts	185