TABLE OF CONTENTS

- Description p.1
- Audience p.1
- Impact Factor p.1
- Abstracting and Indexing p.2
- Editorial Board p.2
- Guide for Authors p.4

DESCRIPTION

General Perspective

- The Journal of Alloys and Compounds is an international peer-reviewed medium for the publication of work on materials comprising compounds as well as alloys. Its great strength lies in the diversity of disciplines which it encompasses, drawing together results from materials science, physical metallurgy, solid-state chemistry and physics. The interdisciplinary nature of the journal is evident in many subject areas. Experimental and theoretical approaches to materials problems require an active interplay between a variety of traditional and novel scientific disciplines.

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Keywords
The keywords for the Journal of Alloys and Compounds are separated into four categories:

A. Types of Material
actinide alloys and compounds
amorphous materials
ceramics
clusters
coating materials
composite materials
data storage materials
disordered systems
electrode materials
energy storage materials
ferroelectrics
fuel cells
fullerenes
half metals
heterojunctions
high-temperature alloys
high-Tc superconductors
hydrogen absorbing materials
inorganic materials
insulators
intermetallics
interstitial alloys
liquid crystals
magnetic films and multilayers
magnetically ordered materials
metal hydrides
metallic glasses
metal matrix composites
metals and alloys
nanostructured materials
nitride materials
nuclear reactor materials
optical materials
oxide materials
permanent magnets
phosphors
polymers, elastomers, and plastics
quantum wells
quasicrystals
rare earth alloys and compounds
semiconductors
spin glasses
superconductors
surfaces and interfaces
thin films
transition metal alloys and compounds
thermoelectric materials

B. Preparation and Processing
amorphisation
chemical synthesis
crystal growth
gas-solid reactions
laser processing
liquid-solid reactions
precipitation
powder metallurgy
mechanical alloying
mechanochemical processing
nanofabrications
rapid-solidification, quenching
sintering
sol-gel processes
solid state reactions
vapor deposition

C. Phenomena
atomic scale structure
acoustic properties
anisotropy
anharmonicity
catalysis
composition fluctuations
crystal structure
corrosion
crystal and ligand fields
crystal binding and equation of state
cyclotron resonance
dielectric response
diffusion
dislocations and disclinations
domain structure
elasticity
electrical transport
electrochemical reactions
electromotive force, EMF
electron-electron interactions
electron-phonon interactions
electronic band structure
electronic properties
enthalpy
entropy
exchange and superexchange
fractional quantum Hall effect
flux pinning and creep
galvanomagnetic effects
grain boundaries
heat capacity
heat conduction
heavy fermions
hyperfine interactions
ionic conduction
impurities in semiconductors
kondo effect
kinetics
magnetisation
magnetocaloric
magnetoresistance
magnetostriction
magneto-volume effects
mechanical properties
microstructure
noise
optical properties
order-disorder effects
oxidation
phase diagrams
phase transitions
phonons
photoconductivity and photovoltaics
piezoelectricity, electrostrition
preferential site ordering
point defects
quantum Hall effect
quantum localization
radiation effects
recombination and trapping
shape memory
spin dynamics
spin-orbit effects
thermal expansion
thermodynamic properties
thermoelectric
thermochemistry
tunnelling
vacancy formation
valence fluctuations

**D. Experimental and Theoretical Methods**

- atomic force microscopy, AFM
- atom, molecule, and ion impact
- calorimetry
- computer simulations
- elastic light scattering
- electrochemical impedance spectroscopy
- electron emission spectroscopies
- electron energy loss spectroscopy
- electron paramagnetic resonance
- EXAFS, NEXAFS, SEXAFS
- high-pressure
- high magnetic fields
- inelastic light scattering
- inelastic neutron scattering
- light absorption and reflection
- luminescence
- magnetic measurements
- Mössbauer spectroscopy
- metallography
- molecular dynamics simulations
- muon spectroscopies
- neutron diffraction
- nonlinear optics
- nuclear resonances
- optical spectroscopy
- perturbed angular correlations, PAC
- photoelectron spectroscopies
- positron spectroscopies
- Rutherford backscattering, RBS
- scanning electron microscopy, SEM
- scanning tunnelling microscopy, STM
- strain, high pressure
- surface electron diffraction (LEED, RHEED)
- synchrotron radiation
- thermal analysis
- thermodynamic modeling
- time-resolved optical spectroscopies
- transmission electron microscopy, TEM
- X-ray diffraction
- X-ray and gamma-ray spectroscopies
- Ultrasonics

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