



# JOURNAL OF ALLOYS AND COMPOUNDS

An Interdisciplinary Journal of Materials Science and Solid-State Chemistry and Physics

## AUTHOR INFORMATION PACK

### TABLE OF CONTENTS

●	<b>Description</b>	<b>p.1</b>
●	<b>Audience</b>	<b>p.1</b>
●	<b>Impact Factor</b>	<b>p.1</b>
●	<b>Abstracting and Indexing</b>	<b>p.2</b>
●	<b>Editorial Board</b>	<b>p.2</b>
●	<b>Guide for Authors</b>	<b>p.4</b>



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### 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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### AUDIENCE

Chemists, physicists, metallurgists and materials scientists, Materials Chemists

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## ABSTRACTING AND INDEXING

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Phase diagrams; Thermodynamic properties; Intermetallics and their properties; Inorganic Compounds; Lead-free Soldering

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Hydrogen storage materials and hydrides, Anode and cathode materials for rechargeable batteries, Supercapacitor, Magnetic materials, Photocatalytic materials

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Li ion materials, Hydrogen storage materials, hydrides

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Rare earth ions and transition metal ions, doped sol-gel materials, photonic structures, nanomaterials, nanoceramics and crystals.

**Isabel Van Driessche**, Dept. of Inorganic and Physical Chemistry, Universiteit Gent, Krijgslaan 281 (Building S3), 9000, Gent, Belgium

Chemical Solution deposition (CSD, ink jet printing) of ceramics. Materials of interest : superconducting perovskites and buffer layers for production of coated conductors, titanates for (photo)catalytic and battery applications, low-E coatings; Formulation of environmentally friendly based inks. Use of bottom-up chemical synthesis approaches (hydrothermal, microwave-assisted, hot injection) for the synthesis of ceramic nanoparticles/suspensions.

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[1] J. van der Geer, J.A.J. Hanraads, R.A. Lupton, The art of writing a scientific article, *J. Sci. Commun.* 163 (2010) 51–59.

Reference to a book:

[2] W. Strunk Jr., E.B. White, *The Elements of Style*, fourth ed., Longman, New York, 2000.

Reference to a chapter in an edited book:

[3] G.R. Mettam, L.B. Adams, How to prepare an electronic version of your article, in: B.S. Jones, R.Z. Smith (Eds.), *Introduction to the Electronic Age*, E-Publishing Inc., New York, 2009, pp. 281–304.

Reference to a website:

[4] Cancer Research UK, Cancer statistics reports for the UK. <http://www.cancerresearchuk.org/aboutcancer/statistics/cancerstatsreport/>, 2003 (accessed 13 March 2003).

Reference to a dataset:

[dataset] [5] M. Oguro, S. Imahiro, S. Saito, T. Nakashizuka, Mortality data for Japanese oak wilt disease and surrounding forest compositions, *Mendeley Data*, v1, 2015. <https://doi.org/10.17632/xwj98nb39r.1>.

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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  
phosphers  
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, electrostriction  
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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