



# MATERIALS RESEARCH BULLETIN

An international journal reporting research on the synthesis, structure, and properties of materials

## AUTHOR INFORMATION PACK

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### DESCRIPTION

*Materials Research Bulletin* is an international journal reporting high - impact research on processing-structure-property *relationships* in **functional inorganic materials** and **nanomaterials** with interesting **electronic, magnetic, optical, mechanical** or **catalytic** properties. Papers purely on thermodynamics or theoretical calculations (*e.g.*, density functional theory) do *not* fall within the scope of the journal unless they also demonstrate a clear link to physical properties. Topics covered include functional materials (*e.g.*, dielectrics, pyroelectrics, piezoelectrics, ferroelectrics, and relaxors); electrochemistry and solid-state ionics (photovoltaics, batteries, sensors, and fuel cells); nanomaterials, graphene, and nanocomposites; novel electronics, luminescence, and photocatalysis; crystal-structure and defect-structure analysis; and non-crystalline solids.

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Materials Scientists, Ceramists, Chemists

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amorphous materials  
carbides  
ceramics

chalcogenides  
composites  
electronic materials  
elements  
fluorides  
fullerenes  
glasses  
halides  
hydrides  
inorganic compounds  
interfaces  
intermetallic compounds  
layered compounds  
magnetic materials  
metals  
microporous materials  
multilayers  
nanostructures  
nitrides  
optical materials  
organic compounds  
oxides  
quasicrystals  
semiconductors  
surfaces  
superconductors  
structural materials  
thin films  
pnictides  
topological insulators

## **B. PREPARATION AND PROCESSING**

chemical synthesis  
crystal growth  
epitaxial growth  
intercalation reactions  
laser annealing  
laser deposition  
plasma deposition  
sol-gel chemistry  
sputtering  
vapor deposition  
solvothermal  
lattice dynamics  
luminescence  
magnetic properties  
magnetic structure  
mechanical properties  
microstructure  
optical properties  
phase equilibria  
phase transitions  
piezoelectricity  
radiation damage  
semiconductivity

## **C. TECHNIQUES**

atomic force microscopy  
differential scanning calorimetry (DSC)  
electrochemical measurements

electron diffraction  
electron energy loss spectroscopy (EELS)  
electron microscopy  
high pressure  
impedance spectroscopy  
infrared spectroscopy  
Mssbauer spectroscopy  
neutron scattering  
nuclear quadrupole resonance (NQR)  
nuclear magnetic resonance (NMR)  
photoelectron spectroscopy  
positron annihilation spectroscopy  
Raman spectroscopy  
scanning tunneling microscopy (STM)  
thermogravimetric analysis (TGA)  
ultrasonic measurements  
XAFS (EXAFS and XANES)  
X-ray diffraction  
neutron diffraction  
transmission electron microscopy (TEM)  
electron spin resonance

#### **D. PROPERTIES AND PHENOMENA** acoustical properties

catalytic properties  
charge-density waves  
spin density waves  
color centers  
crystal structure  
defects  
dielectric properties  
diffusion  
elastic properties  
electrical properties  
electrochemical properties  
electronic paramagnetic resonance (EPR)  
electronic structure  
energy storage  
equations-of-state  
Fermi surface  
ferroelectricity  
fracture  
ionic conductivity  
specific heat  
spin-density waves  
superconductivity  
surface properties  
thermal conductivity  
thermal expansion  
thermodynamic properties  
multiferroics  
thermoelectrics  
phosphors  
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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.

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[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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