

A 2018 Virtual Issue: Papers on Ceramics

A selection of papers chosen to illustrate the wide range of ceramic materials discussed in the Journal of Materials Science

Samarium-doped Fe₃O₄ nanoparticles with improved magnetic and supercapacitive performance: a novel preparation strategy and characterization
J Mater Sci (2018) 53:295–308
DOI 10.1007/s10853-017-1514-7

Investigation of earth-alkaline (EA = Mg, Ca, Sr) containing methylammonium tin iodide perovskite systems
J Mater Sci (2018) 53:356–368
DOI 10.1007/s10853-017-1545-0

Reactive sintering and particle morphology control of β'-alumina-based water purification filters
J Mater Sci (2018) 53:1005–1013
DOI 10.1007/s10853-017-1599-z

Electric field-assisted pressureless sintering of zirconia–scandia–ceria solid electrolytes
J Mater Sci (2018) 53:1658–1671
DOI 10.1007/s10853-017-1615-3

Effect of calcination temperature on structure and thermoelectric properties of CuAlO₂ powders
J Mater Sci (2018) 53:1646–1657
DOI 10.1007/s10853-017-1602-8

Fabrication of lead-free piezoelectric (Bi_{0.5}Na_{0.5})TiO₃–BaTiO₃ ceramics using electrophoretic deposition
J Mater Sci (2018) 53:2396–2404
DOI 10.1007/s10853-017-1717-y

Controllable synthesis of Ho-doped In₂O₃ porous nanotubes by electrospinning and their application as an ethanol gas sensor
J Mater Sci (2018) 53:3267–3279
DOI 10.1007/s10853-017-1796-9

High-temperature stress-dependent piezoelectric and dielectric coefficient of soft Pb(Zr,Ti)O₃
J Mater Sci (2018) 53:3296–3308
DOI 10.1007/s10853-017-1817-8

High-temperature oxidation of yttrium silicides
J Mater Sci (2018) 53:3981–4000
10.1007/s10853-017-1823-x

Mechanical behavior of porous Si₃N₄ ceramics manufactured with 3D printing technology
J Mater Sci (2018) 53:4796–4805
10.1007/s10853-017-1881-0

On thermal runaway and local endothermic/exothermic reactions during flash sintering of ceramic nanoparticles
J Mater Sci (2018) 53:6378–6389
10.1007/s10853-018-2040-y

Determination of the fibre orientation distribution of a mineral wool network and prediction of its transverse stiffness using X-ray tomography
J Mater Sci (2018) 53:6390–6402
10.1007/s10853-018-2044-7

Microstructure and electrical properties of thin HfO₂ deposited by plasma-enhanced atomic layer deposition
J Mater Sci (2018) 53:7214–7223
10.1007/s10853-018-2099-5

Isotropic Mg₃Sb₂ compound prepared by solid-state reaction and ball milling combined with spark plasma sintering
J Mater Sci (2018) 53:8039–8048
10.1007/s10853-018-2127-5

Synthesis and sintering of (Mg, Co, Ni, Cu, Zn)O entropy-stabilized oxides obtained by wet chemical methods
J Mater Sci (2018) 53:8074–8085
10.1007/s10853-018-2168-9

Dual relaxation behaviors and large electrostrictive properties of Bi_{0.5}Na_{0.5}TiO₃–Sr_{0.85}Bi_{0.1}TiO₃ ceramics
J Mater Sci (2018) 53:8844–8854
10.1007/s10853-018-2186-7

First-principles calculations of crystal structure, electronic structure and optical properties of Ba₂RETaO₆ (RE = Y, La, Pr, Sm, Gd)
J Mater Sci (2018) 53:9401–9410
10.1007/s10853-018-2253-0

Co/Mn co-doped TiO₂ nanotube arrays for enhanced photoelectrochemical properties: experimental and DFT investigations
J Mater Sci (2018) 53:9988–10000
10.1007/s10853-018-2316-2

Highly porous 45S5 bioglass-derived glass–ceramic scaffolds by gelcasting of foams
J Mater Sci (2018) 53:10718–10731
10.1007/s10853-018-2337-x

A comparison of the thermal decomposition mechanism of wurtzite AlN and zinc blende AlN
J Mater Sci (2018) 53:11216–11227
10.1007/s10853-018-2400-7

Electric and magnetic properties of ferromagnetic/ piezoelectric bilayered composite
J Mater Sci (2018) 53:14160–14171
10.1007/s10853-018-2673-x

Oxidation resistance of β-Sialon/TiN composites: an ion beam analysis (IBA) study
J Mater Sci (2018) 53:15348–15361
10.1007/s10853-018-2711-8

Enhanced photocatalytic performance of SrTiO₃ crystals with (100), (110) and (111) orientations treated by N₂ (H₂) plasma
J Mater Sci (2018) 53:15340–15347
10.1007/s10853-018-2664-y

Crystallization and microstructure of a glass seal for rapid laser sealing in the system CaO/Al₂O₃/SiO₂
J Mater Sci (2018) 53:16207–16219
10.1007/s10853-018-2786-2

Limit load and failure mechanisms of soda lime glass foam
J Mater Sci (2018) 53:16220–16231
10.1007/s10853-018-2790-6