

The 2017 Cahn Prize Finalists

- December 2017 Effective elastic properties and residual stresses in directionally solidified eutectic $\text{Al}_2\text{O}_3/\text{YAG}/\text{ZrO}_2$ ceramics estimated by finite element analysis
S. Gourdin, L. Marcin, M. Podgorski, M. Herif, and L. Carroz
J Mater Sci (2017) 52, 13736–13747 <https://rdcu.be/bZHYA>
- November 2017 Stress and strain mapping of micro-domain bundles in barium titanate using electron backscatter diffraction
Jane A. Howell, Mark D. Vaudin, Lawrence H. Friedman, and Robert F. Cook
J Mater Sci (2017) 52, 12608–12623 <https://rdcu.be/bZHYy>
- October 2017 Analysis of thermal history effects on mechanical anisotropy of 3D-printed polymer matrix composites via in situ X-ray tomography
J. C. E. Mertens, K. Henderson, N. L. Cordes, R. Pacheco, X. Xiao, J. J. Williams, N. Chawla, B. M. Patterson
J Mater Sci (2017) 52, 12185–12206 <https://rdcu.be/bZHYw>
- September 2017 Four-electron oxygen reduction from mesoporous carbon modified with Fe_2O_3 nanocrystals
Jianan He, Binbin Li, Jing Mao, Yanqin Liang, Xianjin Yang, Zhenduo Cui, Shengli Zhu, and Zhaoyang Li
J Mater Sci (2017) 52, 10938–10947 <https://rdcu.be/bZHYv>
- August 2017 Cerium-doped bioactive 45S5 glasses: spectroscopic, redox, bioactivity and biocatalytic properties
Valentina Nicolini, Gianluca Malavasi, Ledi Menabue, Gigliola Lusvardi, Francesco Benedetti, Sergio Valeri, and Paola Luches
J Mater Sci (2017) 52, 8845–8857 <https://rdcu.be/bZHYs>
- July 2017 Preparation of MRI-visible gadolinium methacrylate nanoparticles with low cytotoxicity and high magnetic relaxivity
Xu Dong, Yuxue Ding, Pan Wu, Changchun Wang, and Christian G. Schäfer
J Mater Sci (2017) 52, 7625–7636 <https://rdcu.be/bZHYo>
- June 2017 Toward an understanding of the effect of surface roughness on instrumented indentation results
J. Mareau and M. Bigerelle
J Mater Sci (2017) 52, 7239–7255
<https://rdcu.be/bZHYi>
- May 2017 Phase-field modeling of eutectic structures on the nanoscale: the effect of anisotropy
László Rátkai, Gyula I. Tóth, László Környei, Tamás Pusztai, László Gránásy
J Mater Sci (2017) 52, 5544–5558 <https://rdcu.be/bZHx9>
- April 2017 Polymer/ceramic co-continuous nanofiber membranes via room-curable organopolysilazane for improved lithium-ion battery performance
Soshana A. Smith, Jay Hoon Park, Brian P. Williams, Yong Lak Joo
J Mater Sci (2017) 52, 3657–3669 <https://rdcu.be/bZHx4>
- March 2017 Probabilistic failure criteria for individual microstructural elements: an application to hydrogen-assisted crack initiation in alloy 725
M. Seita, J. P. Hanson, S. Gradečák, M. J. Demkowicz
J Mater Sci (2017) 52, 2763–2779 <https://rdcu.be/bZHXX>
- February 2017 Vertically aligned and ordered ZnO/CdS nanowire arrays for self-powered UV–visible photosensing
Zhiming Bai, Mingming Fu, and Yinghua Zhang
J Mater Sci (2017) 52, 1308–1317 <https://rdcu.be/bZHwQ>
- January 2017 Elastic and anelastic relaxation behaviour of perovskite multiferroics II: $\text{PbZr}_{0.53}\text{Ti}_{0.47}\text{O}_3$ (PZT)– $\text{PbFe}_{0.5}\text{Ta}_{0.5}\text{O}_3$ (PFT)
J. A. Schiemer, I. Lascu, R. J. Harrison, A. Kumar, R. S. Katiyar, D. A. Sanchez, N. Ortega, C. Salazar Mejia, W. Schnelle, H. Shinohara, A. J. F. Heap, R. Nagarathnam, S. E. Dutton, J. F. Scott, B. Nair, N. D. Mathur, M. A. Carpenter OPEN
J Mater Sci (2017) 52, 285–304 <https://rdcu.be/b0cfk>