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feature articles



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Glassy solid-state electrolytes for all-solid-state batteries

Glassy solid-state electrolytes present several advantages over other classes of solid-state electrolytes, but some material and design challenges must be overcome prior to commercialization.

by Jacob Wheaton, Madison Olson,
Victor M. Torres III, and Steve W. Martin



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With safety and performance, ceramic batteries are in the works

Substantial ceramics research projects are looking to address issues with current lithium-based battery technologies. A selection of recent papers in ACerS journals highlights some of the efforts toward new electrolyte, cathode, and anode materials.

by Jonathon Foreman



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Optical-grade ceramics: Historical turning point for the design of optical elements

Though traditionally believed impossible, polycrystalline ceramics can achieve optical properties on par or superior to those of single crystals—and may lead to a historical turning point in the design of optical elements.

by Akio Ikesue

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Correction to the December 2022 ACerS Bulletin

In the December 2022 ACerS Bulletin, the one-inch Orton ad that appeared on pages 99 and 100 was incorrect. The correct one-inch ads are displayed above. The left ad should have appeared on page 99, while the right ad should have appeared on page 110.

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As seen on *Ceramic Tech Today*...



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A 'brake' from tradition: Glass fibers improve friction performance and wear rates of train brake shoes

Cast iron blocks and steel fibers are the dominant materials used for brake shoes in the railway industry. Researchers from a Spain-based friction materials manufacturer found that the addition of glass fibers could improve the shoes' friction performance and wear rates.

Read more at www.ceramics.org/train-brake-shoes

Also see our ACerS journals...

Overview and perspectives of solid electrolytes for sodium batteries

By S. Vasudevan, S. Dwivedi, and P. Balaya
International Journal of Applied Ceramic Technology

Correlating structure with mechanical properties in lithium borophosphate glasses

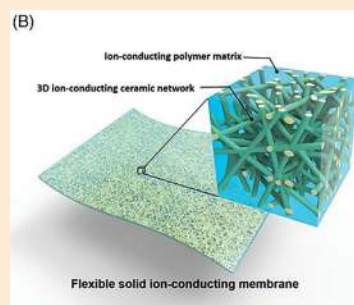
By P. Liu, R. E. Youngman, L. R. Jensen, M. M. Smedskjaer
International Journal of Applied Glass Science

Fe₂O₃ powder modified with Ce_{0.6}Mn_{0.3}Fe_{0.1}O₂ and Cr₂O₃ prepared by spray pyrolysis method for rechargeable Fe–air cell

By T. Ishihara, H. Kim, Y. Inoishi, and J. Matsuda
Journal of the American Ceramic Society

Electronic and ionic properties of sintered cathode of LiNi_{0.6}Mn_{0.2}Co_{0.2}O₂ (NCM622)

By K. Waetzig, J. Huettl, D. Goedeke, et al.
International Journal of Ceramic Engineering & Science



Read more at www.ceramics.org/journals

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