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### 2022

#### **Reduced lattice thermal conductivity of perovskite-type high-entropy (Ca<sub>0.25</sub>Sr<sub>0.25</sub>Ba<sub>0.25</sub>RE<sub>0.25</sub>)TiO<sub>3</sub> ceramics by phonon engineering for thermoelectric applications.**

Zhang P, Gong L, Lou Z, Xu J, Cao S, Zhu J, Yan H and Gao F. *Journal of Alloys and Compounds* vol. 898,.

#### **High-entropy (Ca<sub>0.2</sub>Sr<sub>0.2</sub>Ba<sub>0.2</sub>La<sub>0.2</sub>Pb<sub>0.2</sub>)TiO<sub>3</sub> perovskite ceramics with A-site short-range disorder for thermoelectric applications.**

Zhang P, Lou Z, Qin M, Xu J, Zhu J, Shi Z, Chen Q, Reece MJ, Yan H and Gao F. *Journal of Materials Science and Technology* vol. 97, 182-189.

#### **Temperature-dependent deformation in silver-particle-covered copper nanowires by molecular dynamics simulation.**

Li P, Yang YQ, Koval V, Luo X, Chen J, Zhang W, Emily Lin E, Wang B and Yan H. *Journal of Materiomics* vol. 8, (1) 68-78.

#### **Exploration about superior anti-counterfeiting ability of Sm<sup>3+</sup> doped K<sub>2</sub>Sr<sub>2</sub>Nb<sub>5</sub>O<sub>15</sub> photochromic ceramics: Origin and atomic-scale mechanism.**

Cao S, Zhu J, Chen Q, Liu J, Wu C, Li L, Xu J, Yan H and Gao F. *Journal of Materiomics* vol. 8, (1) 38-46.

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#### **Terahertz characterization of lead-free dielectrics for different applications.**

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#### **Electric field-induced transformations in bismuth sodium titanate-based materials.**

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#### **Terahertz probing of low temperature degradation in zirconia bio-ceramics.**

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#### **Facile one-step synthesis and enhanced photocatalytic activity of WC/ferroelectric nanocomposite.**

Zhang M, Wang Y, Liu J, Thangamuthu M, Yue Y, Yan Z, Feng J, Zhang D, Zhang H, Guan S, Titirici M, Abrahams I, Tang J, Zhang Z, Dunn S and Yan H. *Journal of Materials Chemistry A. Royal Society of Chemistry (Rsc)*.

#### **Characterization of microwave and terahertz dielectric properties of single crystal La<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> along one single direction.**

Zhang M, Tang Z, Zhang H, Smith G, Jiang Q, Saunders T, Yang B and Yan H. *Journal of The European Ceramic Society*.

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**Cationic Polymer Brush-Coated Bioglass Nanoparticles for the Design of Bioresorbable RNA Delivery Vectors.**  
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**Structural Evolution in BiNbO<sub>4</sub>.**

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Shi Z, Zhang P, Lou Z, Qin M, Xu J, Yan H and Gao F. *Ceramics International* vol. 47, (6) 8365-8374.

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**Perovskite Bi<sub>0.5</sub>Na<sub>0.5</sub>TiO<sub>3</sub>-based materials for dielectric capacitors with ultrahigh thermal stability.**

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**Structure and dielectric properties of double A-site doped bismuth sodium titanate relaxor ferroelectrics for high power energy storage applications.**

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**Domain Wall Free Polar Structure Enhanced Photodegradation Activity in Nanoscale Ferroelectric  $Ba_xSr_{1-x}TiO_3$ .**

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**Ultrahigh field-induced strain in lead-free ceramics.**

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**Colossal thermoelectric enhancement in  $Cu_{2+x}Zn_{1-x}SnS_4$  solid solution by local disordering of crystal lattice and multi-scale defect engineering.**

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