



## Publications 2012-2017

**Total number of publications published or accepted: 144****Ceramics**

## 2017

- 1 Cereceda, D.S., Graham-Brady, L., Daphalapurkar, N.P. "Modeling dynamic fragmentation of heterogeneous structural materials." *International Journal of Impact Engineering* 99, 85-101 (2017).
- 2 L Farbaniec, JD Hogan, KY Xie, M Shaeffer, KJ Hemker, KT Ramesh, "Damage evolution of hot-pressed boron carbide under confined dynamic compression," *International Journal of Impact Engineering* 99 (75-84) 2017

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- 3 A.L. Tonge & K.T. Ramesh, "Multi-scale defect interactions in high-rate brittle material failure. Part I: Model formulation and application to ALON," *Journal of the Mechanics and Physics of Solids*, Vol. 86, pp. 117-149, 2016.
- 4 A.L. Tonge & K.T. Ramesh, "Multi-scale defect interactions in high-rate failure of brittle materials, Part II: Application to design of protection materials," *Journal of the Mechanics and Physics of Solids*, Vol. 86, pp. 237-258, 2016. <http://dx.doi.org/10.1016/j.jmps.2015.10.006>
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- 7 J. D. Hogan, L. Farbaniec, T. Sano, M. Shaeffer, & K.T. Ramesh, "The effects of defects on the uniaxial compressive strength and failure of an advanced ceramic," *Acta Materialia*, 102:263-272. doi:10.1016/j.actamat.2015.09.028
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- 9 Kelvin Y. Xie, Qi An, Takanori Sato, Andrew J. Breen, Simon P. Ringer, William A. Goddard, III, Julie M. Cairney, and Kevin J. Hemker, "Breaking the icosahedra in boron carbide," *Proceedings of the National Academy of Sciences of the United States of America*, 113, 12012-2016 (2016)
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- 12 KM Reddy, C Hwang, M Ornek, SL Miller, WE Mayo, A Burgess, RA Haber, KJ Hemker, Observations of nanocrystalline cubic boron nitride formed with plasma spraying. *Acta Materialia*, 2016 <http://dx.doi.org/10.1016/j.actamat.2016.06.038>
- 13 Qi An, K. Madhav Reddy, Huafeng Dong, Ming-Wei Chen, Artem R. Oganov, and William A. Goddard, Nanotwinned Boron Suboxide (B6O): New Ground State of B6O, *Nano Letters*, 16, 4236-4242 (2016).
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- 18 An Q, Goddard WA III. Atomistic Origin of Brittle Failure of Boron Carbide from Large Scale Reactive Dynamics Simulations; Suggestions toward Improved Ductility. *Physical Review Letters*, 2015, Volume: 115 Issue: 10 Article Number: 105501 Published: AUG 31 2015.
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## Composites

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## Metals

2017

- 1 H. Fan, Q. Wang, X. Tian, J.A. El-Awady, Temperature effects on the mobility of pyramidal  $c+a$  dislocations in magnesium, *Scripta Materialia*, 127:68-71, 2017

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