

## LIST OF WORK

### BOOKS EDITED

1. **Theoretical and Computational Methods in Mineral Physics: Geophysical Applications**, *Reviews in Mineralogy and Geochemistry, Mineralogical Society of America*, vol. **71** (2010), ed. by R. M. Wentzcovitch, and L. Stixrude. Online: <http://rimg.geoscienceworld.org/current.dtl>
2. **Perovskite Materials**, *Proceedings of Symposium D of the Materials Research Society, Spring-02 Meeting*, vol. **718** (2002), ed. by R. M. Wentzcovitch, A. Navrotsky, and K. Poeppelmeier.
3. **High Pressure Materials Research**, *Proceedings of Symposium DD of the Materials Research Society Fall-97 Meeting*, vol. **499** (1998), ed. by R. M. Wentzcovitch, R. Hemley, W. Nellis, and P. Y. Yu.

### JOURNAL PUBLICATIONS

180+ publications in peer reviewed journals, 18 conference proceedings; 3 books edited; one instruction video; Web of Science: 12,300+ citations; h-index 45; Google Scholar: 16,100+ citations; h-index 51; i10-index 144 (05/2016).

#### Under Review

- S1. K. Sarkar, M. Topsakal, N. Holzwarth, and R. M. Wentzcovitch, **Evolutionary optimization of PAW data-sets for high pressure simulations**, *Phys. Rev. B*, under submission (2016).
- S2. J. S. Jeong, M. Topsakal, P. Xu, B. Jalan, R. M. Wentzcovitch, and A. Mkhoyan, **A new line defect in strained NdTiO<sub>3</sub> perovskite**, *Proc. Natl. Acad. Sc. Of USA*, under review (2016).
- S3. Ballmer, C. Houser, J. Hernlund, R. M. Wentzcovitch, and K. Hirose, **Persistence of strong silica-enriched domains in the Earth's lower mantle**, *Nature*, under review (2016).
- S4. G. Shukla and R. Wentzcovitch, **Spin crossover in (Mg,Fe<sup>3+</sup>)(Si,Fe<sup>3+</sup>)O<sup>3</sup> bridgmanite: effects of disorder, iron concentration, and temperature**, *Earth and Planet. Sc. Lett.*, under review (2016).
- S5. H. Shahnas, D. A. Yuen, R. N. Pysklywec, and R. Wentzcovitch, **Mid-mantle heterogeneities and iron spin transition: implications for slab stagnation**, *Earth and Planet. Sc. Lett.*, under review (2016).
- S6. Z. Wu and R. Wentzcovitch, **Composition versus temperature induced velocity heterogeneities in a pyrolytic lower mantle**, *Earth and Planet. Sc. Lett.*, under review (2016).

**2016**

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178. K. Umemoto, T. Kawamura, K. Hirose, and R. M. Wentzcovitch, [Post-stishovite transition in hydrous aluminous  \$SiO\_2\$](#) , *Phys. Earth & Planet. Int.* **255**, 18-26 (2016). DOI:10.1016/j.pepi.2016.03.008
177. G. Shukla, M. Cococcioni, and R. Wentzcovitch, [Thermoelasticity of  \$Fe^{3+}\$ - and Al-bearing bridgmanite: effects of spin crossover in iron](#), *Geophys. Res. Lett.*, in press (2016). DOI: 10.1002/2016GL069332

**2015**

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175. K. Umemoto, E., Sugimura, K. Hirose, S. de Gironcoli, and R. M. Wentzcovitch, [Nature of the volume isotope effect in  \$H\_2O\$ -ice](#), *Phys. Rev. Lett.* **115**, 173005 (2015). DOI:10.1103/PhysRevLett.115.173005
174. G. Shukla, M. Topsakal, and R. Wentzcovitch, [Spin crossovers in iron-bearing  \$MgSiO\_3\$  and  \$MgGeO\_3\$ : their influence on the post-perovskite transitions](#), *Phys. Earth & Planet. Int.*, in press (2015). DOI:10.1016/j.pepi.2015.10.002
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