BIOGRAPHICAL SKETCH

Koushik Biswas

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a .Professional preparation

Texas Tech University, Lubbock, TX	Physics	M.S., 2003
Texas Tech University, Lubbock, TX	Physics	Ph.D., 2007
National Renewable Energy Laboratory	Physics/Materials Science	Postdoctoral, 2007-2010
Oak Ridge National Laboratory	Physics/Materials Science	Postdoctoral, 2010-2012

b.Appointments

August 2012- present Assistant Professor of Physics, Arkansas State University

c. Products

i) Five recent publications

1. M.-H. Du and K. Biswas, "Electronic structure engineering of elpasolites: Case of Cs_2AgYCl_6" *Journal of Luminescence* **143**, 710 (2013).
2. K. Biswas, M.-H. Du, and D. J. Singh, "Native defects and optical properties of Thallium Chalcohalide (Tl_6SeI_4): a first-principles study" *Physical Review B* **86**, 144108 (2012).
3. K. Biswas and M.-H. Du, "Energy transport and scintillation of Cerium doped elpasolite Cs_2LiYCl_6: hybrid density functional calculations" *Physical Review B* **86**, 014102 (2012).
4. K. Biswas and M.-H. Du, "Causes of high resistivity in CdTe" *New Journal of Physics* **14**, 063020 (2012).
5. M.-H. Du and K. Biswas, "Anionic and hidden hydrogen in ZnO", *Physical Review Letters* **106**, 115502 (2011).

ii) Five other publications

1. K. Biswas and M.-H. Du, "AX centers in II-VI semiconductors: Hybrid Functional Calculations", *Applied Physics Letters* **98**, 181913 (2011).
2. G. Trimarchi, H. Peng, J. Im, A. J. Freeman, V. Cloet, A. Raw, K. R. Poeppelmeier, K. Biswas, S. Lany, and A. Zunger, "Using design principles to systematically plan the synthesis of hole-conducting transparent oxides: Cu_3VO_4 and Ag_3VO_4 as a case study", *Physical Review B* **84**, 165116 (2011).
3. K. Biswas, S. Lany, and A. Zunger, "The electronic consequences of multivalent elements in inorganic solar absorbers: Multivalency of Sn in Cu_2ZnSnS_4", *Applied Physics Letters* **96**, 201902 (2010).
4. K. Biswas, A. Franceschetti, and S. Lany, "Generalized valence-force-field model of (Ga,In)(N,P) ternary alloys", *Physical Review B* **78**, 085212 (2008).
5. K. Biswas and C. W. Myles, "Electronic and vibrational properties of framework-substituted type-II Si clathrates", *Physical Review B* **75**, 245205 (2007).

d.Synergistic and Outreach Activities

- Member, Curriculum Committee to develop minimum curriculum content to be introduced in Physics courses at Arkansas State University, text adoption and common course assessments.
- Referee for peer-reviewed journals Reviews of Modern Physics, Physical Review Letters, Physical Review B, Applied Physics Letters, Journal of Applied Physics, Journal of Physics: Condensed Matter, Journal of Physics D: Applied Physics and evaluation of grant proposal for American Chemical Society (ACS) Petroleum Research Fund.
- Invited to present at several conferences, workshops, and seminars.

Recent Grants & Subawards

1. Research supported by National Science Foundation and Department of Homeland Security. Scheduled Oct. 1, 2013-2018.
   Theory lead PI: Biswas $90,000 (Year 1); $454,000 (Cumulative).

2. Subcontract, 2013-2016.

3. Development of Li-ion battery research program at ASU (co-PI), $5000, Arkansas Space Grant Consortium.