

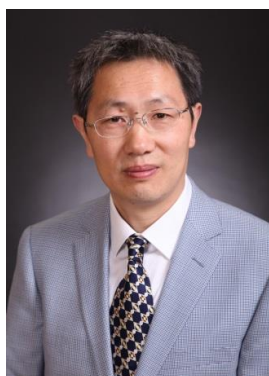
邢献然，1963年9月出生，物理化学系教授，教育部长江学者奖励计划特聘教授，国家杰出青年科学基金获得者。1988年安庆师范学院化学专业获学士学位，分别在1990年和1994年获北京科技大学大学冶金物理化学专业硕士、博士学位。研究方向：负热膨胀化合物的设计与性能调控、新型化合物的合成和应用、冶金过程物相转变和反应机理等。现任国务院学位委员会学科评议组成员、英国皇家化学会会士（FRSC）、教育部创新团队负责人、*Chemical Communications* 期刊顾问编委等。培养全国百篇优秀博士学位论文获得者1名、北京市优秀博士学位论文获得者2名。

【在研科研项目】

- [1] 国家自然科学基金重点项目，No.21231001，多功能负热膨胀化合物的合成和机理研究，300万，2013–2017，负责人。
- [2] 教育部创新团队项目，钙钛矿材料的负热膨胀性、铁电性及其性能调控，No.IRT1207，300万元，2013-2015，负责人。
- [3] 教育部博士点基金优先发展领域，No.20120006130001，负热膨胀性、铁电性和铁磁性钙钛矿材料的制备与性能研究，40万，2013–2015，负责人。

【代表性学术论文】

- 1.Lei Hu, Jun Chen, Longlong Fan, Yang Ren, Yangchun Rong, Zhao Pan, Jinxia Deng, Ranbo Yu, and Xianran Xing, Zero Thermal Expansion and Ferromagnetism in Cubic $\text{Sc}_{1-x}\text{M}_x\text{F}_3$ (M= Ga, Fe) over a Wide Temperature Range, *J. Am. Chem. Soc.* 2014, 136, 13566–13569.
- 2.Jun Chen, Lei Hu, Jinxia Deng, and Xianran Xing, Negative thermal expansion in functional materials: controllable thermal expansion by chemical modifications, *Chem.Soc.Rev.*, 2015, 44, 3522-3567.
- 3.Penghao Hu, Jun Chen, Jinxia Deng, and Xianran Xing, Thermal expansion, ferroelectric and magnetic properties in $(1-x)\text{PbTiO}_3-x\text{Bi}(\text{Ni}_{1/2}\text{Ti}_{1/2})\text{O}_3$, *J. Am. Chem. Soc.* 2010, 132, 1925-1928.
- 4.Jun Chen, Longlong Fan, Yang Ren, Zhao Pan, Jinxia Deng, Ranbo Yu, and Xianran Xing, Unusual transformation from strong negative to positive thermal expansion in $\text{PbTiO}_3\text{-BiFeO}_3$ perovskite, *Phys. Rev. Lett.* 2013, 110, 115901.
- 5.Jun Chen, Krishna Nittala, Jennifer S. Forrester, Jacob L. Jones, Jinxia Deng, Ranbo Yu, and Xianran Xing, The role of spontaneous polarization in the negative thermal expansion of tetragonal PbTiO_3 -based compounds, *J. Am. Chem. Soc.* 2011, 133, 11114–11117.



Xianran Xing is Changjiang professor at University of Science and Technology Beijing (USTB), and Fellow of the Royal Society of Chemistry. He received his BS degree in chemistry from Anqing Teachers College (1988), and his Ph.D from Department of Physical Chemistry USTB (1994). His research interests focus on the solid state chemistry, involving syntheses strategy, crystal structure and chemical design for functional materials. Since fifteen year ago, he has led a group to start a work on the negative thermal expansion (NTE) in lead titanate-based perovskite compounds and related materials, which could be used to tailor thermal expansion coefficients (TEC) of ferroelectric, magnetoelectric, and multiferroic perovskites. The mechanism of negative thermal expansion in PbTiO₃-based materials is being understood by proposed “spontaneous volume ferroelectrostriction”, which is a new concept, but very common phenomena in ferroelectrics. Many efforts have also taken to insight into fundamental physical properties coupled with NTE in complex oxides, and to developing new NTE solids.

【Publications】

1. Lei Hu, Jun Chen, Longlong Fan, Yang Ren, Yangchun Rong, Zhao Pan, Jinxia Deng, Ranbo Yu, and Xianran Xing, Zero Thermal Expansion and Ferromagnetism in Cubic Sc_{1-x}M_xF₃ (M= Ga, Fe) over a Wide Temperature Range, *J. Am. Chem. Soc.* 2014, 136, 13566–13569.
2. Jun Chen, Lei Hu, Jinxia Deng, and Xianran Xing, Negative thermal expansion in functional materials: controllable thermal expansion by chemical modifications, *Chem.Soc.Rev.*, 2015, 44, 3522-3567.
3. Penghao Hu, Jun Chen, Jinxia Deng, and Xianran Xing, Thermal expansion, ferroelectric and magnetic properties in (1-x)PbTiO₃-xBi(Ni^{1/2}Ti^{1/2})O₃, *J. Am. Chem. Soc.* 2010, 132, 1925-1928.
4. Jun Chen, Longlong Fan, Yang Ren, Zhao Pan, Jinxia Deng, Ranbo Yu, and Xianran Xing, Unusual transformation from strong negative to positive thermal expansion in PbTiO₃-BiFeO₃ perovskite, *Phys. Rev. Lett.* 2013, 110, 115901.
5. Jun Chen, Krishna Nittala, Jennifer S. Forrester, Jacob L. Jones, Jinxia Deng, Ranbo Yu, and Xianran Xing, The role of spontaneous polarization in the negative thermal expansion of tetragonal PbTiO₃-based compounds, *J. Am. Chem. Soc.* 2011, 133, 11114–11117.