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Journal of Non-Crystalline Solids  
Journal of Physics and Chemistry of Solids  
Journal of Solid State Chemistry  
Materials Science and Engineering A  
Materials Research Bulletin  
Metallurgical and Materials Transactions  
Modern Physics Letters B  
Physica B  
Physical Review B  
Scripta Materialia  
Scientific Reports

国际学术会议分会主席:

TMS 2007: Mechanical Behavior of Nanostructured Materials  
TMS 2008: Particle Beam-Induced Radiation Effects in Materials: Nanostructures  
TMS 2008/5th International Symposium on Ultra-Fine Grained Materials  
International Symposium of Amorphous Alloys (Nov. 19-22, 2008, Hangzhou, China)  
International Conference on Mechanical Properties of Materials (May 24-28, 2010, Hangzhou, China)  
IUMRS-ICAM2013 International Conference on Advanced Materials (September 22-28, 2013, Qingdao, China)  
2nd International symposium on Metastable Materials Science & Technology, Qinhuangdao, China, Oct. 12-16, 2015.

5.

IUMRS-ICA 2016 Symposium G: Amorphous and High-entropy Alloys, Qingdao, China, Oct. 20-24, 2016.  
2017 TMS Annual Meeting & Exhibition, Mechanical Behavior of Nanostructured Materials, San Diego, California, USA, Feb. 26 – March 2, 2017

科学研究基金和项目评审专家:

City University of Hong Kong – Strategic Research Grant (SRG)  
Louisiana State University – Research Competitiveness Subprogram (RCS)  
Department of Energy (DOE) – Basic Energy Sciences (BES) research  
教育部“长江学者奖励计划” (海外评审专家)  
国家重点基础研究发展计划 (973计划)

### 研究领域

纳米材料的制备、结构、磁性与力学性能  
非晶材料的制备、结构与磁性  
抗辐照纳米材料  
锂离子电池纳米电极材料  
超硬材料  
高熵合金

### 教学科研信息

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(\*: ISI SciSearch Publications, #: ISI Proceedings Publications)(Citations: 3724, h-index: 31 (Google Scholar))

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#### 国际学术会议口头和特邀报告:

1. "The influence of dislocation structure on formation of nanocrystals by mechanical attrition", International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM-94), Grenoble, France, June 27-July 1, 1994.
2. "Solid solution hardening/softening in nanocrystalline alloys", Materials Week '95, Cleveland, Ohio, October 29-November 2, 1995.
3. "V/MgAl<sub>2</sub>O<sub>4</sub> composites for hostile environment applications-Part I: processing", 22nd Annual Conference on Composites, Advanced Ceramics, Materials, and Structures: A, Cocoa Beach, Florida, U. S. A., January 20-24, 1998.
4. "V/MgAl<sub>2</sub>O<sub>4</sub> composites for hostile environment applications-Part II: properties", 22nd Annual Conference on Composites, Advanced Ceramics, Materials, and Structures: A, Cocoa Beach, Florida, U. S. A., January 20-24, 1998.
5. "Synthesis and properties of Pd-containing bulk glassy alloys", 1998 MRS Fall Meeting (Symposium MM: Bulk Metallic Glasses), Boston, Massachusetts, U. S. A., November 30 - December 4, 1998.
6. "Bulk amorphous Fe-based alloys with soft magnetic properties", 1999 MRS Spring Meeting (Symposium I: Amorphous and Nanocrystalline Materials for Hard and Soft Magnetic Applications), San Francisco, California, U. S. A., April 5-9, 1999.

7. "Thermal, transport and magnetic properties of bulk Pd-Ni-Fe-P metallic glasses" , the 2000 TMS Fall Meeting, St. Louis, Missouri, U. S. A., October 8–12.
8. "Bulk Fe-based metallic glasses with extremely soft ferromagnetic properties" , the 2001 International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM 2001), Ann Arbor, Michigan, U. S. A., June 24-29, 2001.
9. "Recent advances in bulk metallic glass" , the 2001 International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM 2001), Ann Arbor, Michigan, U. S. A., June 24-29, 2001.
10. "Stability of supercooled Pd<sub>40</sub>Ni<sub>40</sub>-xCu<sub>x</sub>P<sub>20</sub> liquids" , 2002 TMS Annual Meeting & Exhibition, Seattle, Washington, U. S. A., February 17–21, 2002.
11. "Glass formability and stability in Pd-Ni-Cu-P alloys" , 2002 MRS Fall Meeting (Symposium CC: Supercooled Liquids, Glass Transition, and Bulk Metallic Glasses), Boston, Massachusetts, U. S. A., December 2-6, 2002.
12. "Low-temperature magnetization and spin-wave excitation in bulk Fe-based amorphous glasses" , 2003 TMS Annual Meeting & Exhibition, San Diego, California, U. S. A., March 2–6, 2003.
13. "What is the lowest achievable critical cooling rate in Pd-based glasses" , 2003 TMS Annual Meeting & Exhibition, San Diego, California, U. S. A., March 2–6, 2003.
14. "Bulk metallic glass gasket for high pressure: in situ x-ray diffraction", the SMEC (Study of matter at extreme conditions) Conference (Symposium 14:High-pressure structural study of metals.), Miami, Florida, U. S. A., March 24-27, 2003.
15. "Soft ferromagnetism in nanocrystalline alloys" , 10th International Symposium on Metastable, Mechanically Alloyed and Nanocrystalline Materials (ISMANAM 2003), Foz do Iguaçu, Brazil, August 24 - 28, 2003.
16. "How far are we from achieving homogeneous nucleation in a bulk metallic glass?" , the 3rd International Conference on Bulk Metallic Glasses, Beijing, China, October 12-16, 2003.
17. "High-strength, high conductivity bulk nanostructured Ag-Cu alloys" , Materials Science & Technology 2003, Chicago, Illinois, November 9-12, 2003.
18. "Mechanical and physical properties of bulk Ag-Cu nanostructured alloys prepared by slow melt quenching" , 2003 MRS Fall Meeting (Symposium Q: Mechanical Properties of Nanostructured Materials and Nanocomposites), Boston, Massachusetts, U. S. A., December 1-5, 2003.
19. "The decomposition of Pd<sub>40</sub>Ni<sub>40</sub>P<sub>20</sub> bulk metallic glass" , International Field Emission Symposium (IFES 04), Seggau Castle by Graz, Austria, July 12 - 16, 2004.
20. "Magnetic microstructure of bulk metallic glasses" , the Fourth International Bulk Metallic Glasses Conference, Gatlinburg, Tennessee, U. S. A., May 1-5, 2005.
21. "Fabrication and characterization of nanostructured CuAg (Ag-40at%Cu)" , IMS 2005, Honolulu, Hawaii, U. S. A., July 31 – August 4, 2005.
22. "Structure and properties of bulk nanostructured materials prepared by flux-melting" , the 6th International Workshop on Advanced Intermetallics and Metallic Materials, Yangzhou, Jiangsu, China, October 9-15, 2005.
23. "Nanocrystalline Fe(Al,Si) alloys: hardening by annealing" , 2006 TMS Annual Meeting & Exhibition, San Antonio, Texas, U. S. A., March 12-16, 2006.
24. "Influence of dislocation configuration on the mechanical behavior of nanocrystalline materials" , 2006 MRS Spring Meeting, San Francisco, California, U. S. A., April 17-21, 2006.
25. "Radiation tolerance in nanocrystalline materials: thermodynamics, kinetics, and microstructural evolution" , CAAR I 2006: 19th International Conference on the Application of Accelerators in Research and Industry, Fort Worth, Texas, USA, August 20 - 25, 2006.
26. "Strength of nanocrystalline metals: influence of recovery and recrystallization" , 2007 TMS Annual Meeting & Exhibition, Orlando, Florida, U. S. A., February 25-March 1, 2007.
27. "Effect of solute segregation on the hardness of nanocrystalline alloys" , 2007 TMS Annual Meeting & Exhibition, Orlando, Florida, U. S. A., February 25-March 1, 2007.

28. "Nanostructure under irradiation: is smaller better?" , 2008 TMS Annual Meeting & Exhibition, New Orleans, Louisiana, U. S. A., March 9-13, 2008.
29. "Multiple deformation in bulk nanocrystalline silver" , 2008 TMS Annual Meeting & Exhibition, New Orleans, Louisiana, U. S. A., March 9-13, 2008.
30. "Magnetic structure and property of bulk ferromagnetic metallic glasses" , International Symposium of Amorphous Alloys, Hangzhou, China, November 19-22, 2008.
31. "Tensile deformation of bulk nanocrystalline silver studied by in situ synchrotron x-ray diffraction" , International Conference on Mechanical Properties of Materials, Hangzhou, China, May 24-28, 2010.
32. "Soft Magnetism in Stressed Iron-based Nanocrystalline Alloys" , IUMRS-ICAM2013 International Conference on Advanced Materials, Qingdao, China, September 22-28, 2013.
33. "Magnetic Microstructure-Property Relations in Iron-based Bulk Metallic Glasses" , IUMRS-ICAM2013 International Conference on Advanced Materials, Qingdao, China, September 22-28, 2013.
34. "Hardening by annealing and abnormal Hall-Petch relationship in nanocrystalline elements and alloys" , 2nd International symposium on Metastable Materials Science & Technology, Qinhuangdao, China, 2015.10.12-10.16.
35. "Low power loss in Fe<sub>65.5</sub>Cr<sub>4</sub>Mo<sub>4</sub>Ga<sub>4</sub>P<sub>12</sub>B<sub>5.5</sub>C<sub>5</sub> bulk metallic glasses " , 23rd International Symposium on Metastable, Amorphous and Nanostructured Materials, Kasugano International Forum, Nara, Japan, July 3-8, 2016.
36. "Improving the thermal stability, glass forming ability and ferromagnetism of bulk ferromagnetic metallic glasses by metalloids" , IUMRS-ICA 2016 Symposium G: Amorphous and High-entropy Alloys, Qingdao, China, Oct. 20-24, 2016.
37. "Hardening by annealing and abnormal Hall-Petch relationship in nanocrystalline elements and alloys" , 2017 TMS Annual Meeting & Exhibition, San Diego, California, USA, Feb. 26 – March 2, 2017.
38. "The origins of excellent soft magnetism in Fe<sub>65.5</sub>Cr<sub>4</sub>Mo<sub>4</sub>Ga<sub>4</sub>P<sub>12</sub>B<sub>5.5</sub>C<sub>5</sub> bulk metallic glasses " , 2017 TMS Annual Meeting & Exhibition, San Diego, California, USA, Feb. 26 – March 2, 2017.

#### 专利:

沈同德, 李静, "两性碳纳米管分散粉末的制备", 专利号: CN102275899A。

(美国专利) T.D. Shen and J. Li, Dispersible carbon nanotubes and method for preparing same, 12/792428。

沈同德, 冯卫良, 李静, "含有三维空间导电网络的锂离子电池纳米复合正、负极材料及制备方法", 专利申请号: 201210248503.1。

沈同德, "一种制备块体非晶的溶剂覆盖及真空纯化方法", 专利申请号: 201310202147.4。

沈同德, "一种提高合金非晶形成能力的反复熔化-凝固处理方法", 专利申请号: 201310202112.0。

沈同德, "一种制备具有超软铁磁性能的铁基非晶合金的方法", 专利申请号: 201310202160.X。

### 科研成果及奖励

#### 科研成果:

在Nature Materials、Nano Letters、PNAS、Acta Materialia、Physical Review B、Applied Physics Letters等国际著名学术刊物发表SCI收录论文100余篇, SCI引用3700余次, H因子31(Google Scholar)。

主要创新性成果: 提出纯元素通过压力及晶粒尺寸细化两种方式进行非晶转变的机制; 晶粒尺寸对纳米晶材料弹性性能的定量影响; 融渣融化法制备具有高玻璃形成能力和优异软磁性能的块体非晶材料; 提出描述纳米材料软磁磁性的普适理论模型; 融渣融化法制备具有优异力学特性的块体纳米晶材料; 利用循环熔化/凝固法大幅度提高块体非晶合金的玻璃形成能力; 发现和解释纳米材料的超强抗辐射特性; 对纳米材料中反常的Hall-Petch关系提出溶质晶偏聚的新解释; 高性能锂离子电池纳米复合电极材料。

**主要奖励:**

2007年, 美国洛斯阿拉莫斯国家实验室, 杰出表现奖

2008年, “南京工业大学--南京高新技术产业开发区” 三创载体领军人才

2009年, “江苏省高层次创新创业人才引进计划”(创新类别)

2011年, 微纳米材料制备、力学性能及工业应用获江苏省科学技术三等奖

2016年, 新型亚稳材料的制备、性能及应用获第六届中国侨界(创新成果)贡献奖

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