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主要研究方向

主要从事新型陶瓷材料及其复合材料的抗热震性、耐烧蚀性能及其在多功能航天防热部件上的应用等方面的科研与教学工作，主持及主要参与完成和在研“国家自然科学基金”、“国家高新工程”、“863”、“总装备部”、“国防科工委”和航天横向协作等各类科研课题 30 项。研究方向主要包括：

- 多功能航天防热陶瓷复合材料制备与应用技术
- 特种条件下陶瓷材料的损伤机理
- 形状复杂薄壁陶瓷材料构件的成型技术
- 陶瓷复合材料及构件的绿色低成本制备技术
- 非晶及纳米陶瓷与陶瓷基复合材料制备与表征
- 气凝胶及其复合材料
- 无机聚合物基复合材料

社会兼职

- 中国机械工程学会工程陶瓷专业委员会常务理事
- 中国硅酸盐学会特种陶瓷专业委员会理事
- 国家自然科学基金项目通讯评议专家
- 10 余种国际期刊(J Am Ceram Soc, Mater Lett, Mater and Design, Mater Res Bull, J Phy and Chem Solids, Chem Eng Commun, Acta Biomaterialia 等)和 10 余种中文期刊(《硅酸盐学报》、《无机材料学报》、《复合材料学报》、《材料科学与工艺》、《上海交通大学学报》、《西安交通大学学报》、《天津大学学报》等)审稿人。

主要学术成果

发明了多个系列具有自主知识产权的陶瓷基复合材料，研制成包括我国杀手锏武器在内的几个型号多种关键防热部件并获成功应用，获 2005 年度国家技术发明二等奖 1 项，航天工业总公司、国防科工委和教育部科技进步一等奖 2 项、二等奖 2 项。申报国家发明专利 38 项(已授权 8 项)；发表与合作发表学术论文 160 余篇，SCI 收录 123 篇、EI 收录 137 篇，SCI 他引 270 余次；由科学出版社、哈工大出版社、台湾沧海书局等出版专著/教材 3 部；论著被他人引用合计 500 余次。代表作如下：

- 专著/教材
 1. 贾德昌, 宋桂明, 柯华, 段小明, 王文.《无机非金属材料性能》(共 54.3 万字, 任主编并编撰其中 32 万字), 北京: 科学出版社, 2008.1
 2. 贾德昌, 宋桂明, 周劲松, 王文.《电子材料》(共 48.8 万字, 任主编并编撰其中 36 万字), 哈工大出版社, 2000; 台湾沧海书局, 2001
 3. 周玉, 贾德昌, 温广武.《陶瓷材料学》(参著第 12 章, 6 万字), 哈工大出版社, 1995; 台湾中央出版社, 1998; 科学出版社, 2004
- 学术论文
 1. Shao YF, Jia DC and Zhou Y. Novel method for fabrication of silicon nitride/silicon oxynitride composite ceramic foams using



- fly ash cenosphere as a pore-forming agent. *Journal of American Ceramic Society*, 2008, 91(11): 3781-85
2. **Dechang Jia**, DongKyu Kim, and Waltraud M. Kriven. Sintering Behavior of Gehlenite. Part I: Self-Forming, Macro-/Mesoporous Gehlenite—Pore-Forming Mechanism, Microstructure, Mechanical, and Physical Properties. *Journal of American Ceramic Society*, 2007, 90 (6): 1760-1773
 3. **Dechang Jia**, Waltraud M. Kriven. Sintering Behavior of Gehlenite. Part II: Microstructure, and Mechanical Properties. *Journal of American Ceramic Society*, 2007, 90 (9): 2766-2770
 4. **De-Chang Jia**, Jia-Huan Xu, Hua Ke, Wen Wang, Yu Zhou. Structure and Multiferroic Properties of BiFeO₃ Powders. *Journal of the European Ceramic Society*. 2009, 29(14): 3099~3103.
 5. Shao YF, **Jia DC** and Liu BY. Characterization of porous silicon nitride ceramics by pressureless sintering using fly ash cenosphere as a pore-forming agent. *Journal of the European Ceramic Society*. 2009, 29(8): 1529-1534.
 6. **D. C. Jia**, Y. Zhou, T. C. Lei. Ambient and elevated temperature mechanical properties of hot-pressed fused silica matrix composite, *Journal of the European Ceramic Society*, 2003, 23: 801-808.
 7. Yang ZH, **Jia DC**, Zhou Y, et al. Thermal shock resistance of in situ formed SiC-BN composites, *Materials Chemistry and physics*, 2008, 107 (2-3): 476-479.
 8. Y.M. Wang, **D.C Jia**, L.X. Guo, T.Q. Lei , B.L. Jiang. Effect of discharge pulsating on microarc oxidation coatings formed on Ti6Al4V alloy. *Materials chemistry and physics*. 2005, 90:128-133
 9. Liu BY, **Jia DC**, Meng QC, et al. Synthesis of hollow six-armed carbon particles by a self-assembly template method , *Carbon*, 2008, 46(4) 717-720. (IF=4.373)
 10. Boyang Liu, **Dechang Jia**, Yu Zhou, Haibo Feng, Qingchang Meng. Low temperature synthesis of amorphous carbon nanotubes in air. *Carbon*, 2007, 45: 1696-1713 (IF=4.373)
 11. Boyang Liu, **Dechang Jia**, Qingchang Meng, Jiancun Rao. A novel method for preparation of hollow carbon spheres under a gas pressure atmosphere, *Carbon*, 2007, 45 (3): 668-670 (IF=4.373)
 12. Boyang Liu, **Dechang Jia**, Haibo Feng, Qingchang Meng, Yingfeng Shao. Synthesis and formation mechanism of hollow carbon spheres encapsulating magnetite nanocrystals. *J of Materials Research*, 2008, 23 (7): 1980-1986. (IF=1.916)
 13. Liu BY, **Jia DC** and Shao YF. Effects of gas pressure and temperature on the synthesis of hollow carbon spheres in high pressure argon. *Materials Chemistry and Physics*. 2009, 114 (1): 391-397 .
 14. **Jia D C**, Zhou Y. Effect of fiber content on properties of a short carbon fiber reinforced fused silica matrix composite. *Journal of Advanced Materials*, 2006, 38 (3): 21-26
 15. Xiu-rong Qu, **De-chang Jia**. Synthesis of octahedral ZnO mesoscale superstructures via thermal decomposing octahedral zinc hydroxide precursors. *Journal of Crystal Growth*. 2009,311:1223-1228
 16. Hai bo Feng, Yu Zhou, **Dechang Jia**, Qingchang Meng, and Jianchun Rao. Growth Mechanism of In Situ TiB Whisker in Spark Plasms Sintered TiB/Ti Matrix Composites, *Crystal Growth & Design*, 2006, 6 (7), 1626-1630 (IF=3.551)
 17. Haibo Feng, Yu Zhou, **Dechang Jia**, Qingchang Meng. Stacking Faults Formation Mechanism of In Situ Synthesized TiB Whiskers. *Scripta Materialia*. 2006, (55): 667-670. (IF=2.228)
 18. Y. G. Liu, Y. Zhou, **D. C. JIA**, Q. C. Meng and Y. H. Chen. Domain switching toughening in a LiTaO₃ dispersed Al₂O₃ ceramic composite, *Scripta Materialia*, 2002, 47: 63-68 (IF=2.228)
 19. Zhi-Hua Yang, **De-Chang Jia**, Yu Zhou, Jiu-Xing Zhang. Processing and characterization of SiB_{0.5}C_{1.5}N_{0.5} produced by mechanical alloying and subsequent spark plasma sintering. *Mater Sci Eng A*. 2008, 488 (1-2): 241-246.
 20. T. S. Lin, **D. C. Jia**, P. G. He, M. R. Wang, D. F. Liang. Effects of Fiber Length on Mechanical Properties and Fracture Behavior of Short Carbon Fiber Reinforced Geopolymer Matrix Composites, *Mater Sci Eng A*. 2008, 497: 181~185
 21. Feng HB, Zhou Y, **Jia D C**, et al. Rapid synthesis of Ti alloy with B addition by spark plasma sintering . *Mater Sci Eng A*, 2005,

390 (1-2): 344-349

22. Y.G. Liu, Y. Zhou, **D.C. Jia**, Q.C. Meng. Domain structures and toughening mechanism in Al₂O₃ matrix ceramic composites dispersed with piezoelectric LiTaO₃, *Mater. Sci. Eng. A*, 2003, 347 (1-2): 359-364
 23. **D. C. Jia**. Influence of SiC particulate size on the microstructural evolution and mechanical properties of Al-6Ti-6Nb matrix composites, *Mater. Sci. Eng. A*, 2000; A289: 83-90
 24. **D. C. Jia**, Y. Zhou. Mechanical Properties and Fracture Behavior of SiCw Reinforced Al-12Ti Alloy Prepared by Mechanical Alloying Technique, *Mater. Sci. & Eng. A*, 1998, A252: 44-52
 25. **D. C. Jia**, Y. Zhou, T. C. Lei. Microstructure and Mechanical Properties of Al-12Ti-6Nb Prepared by Mechanical Alloying, *Mater. Sci. & Eng. A*, 1997, A232:183-197
 26. X. R. Qu, **D. C. Jia**. Controlled Growth and Optical Properties of Al³⁺ Doped ZnO Nanodisks and Nanorod Clusters. *Materials Letters*, 2009, 63(3-4): 412~414.
 27. Sun, Ye; Meng, Qingchang; **Jia, Dechang**; Huang, Liangjun. Influence of titanium diboride on the microstructure and mechanical properties of silicon nitride ceramic. *Materials Letters*, 2004, 58(14): 2057-2060
 28. Feng HB, **Jia D C**, Zhou Y. Spark plasma sintering reaction synthesized TiB reinforced titanium matrix composites. *Composites part A-Appl. Sci. & Manufacturing*, 2005, 36 (5): 558-563
 29. H. B. Feng, Y. Zhou, **D. C. Jia**, Q. C. Meng. Microstructure and Mechanical Properties of *In Situ* TiB Reinforced Titanium Matrix Composites Based on Ti-FeMo-B Prepared by Spark Plasma Sintering. *Comp Sci & Technol*, 2004, 64 (16):2495-2500
 30. Yangai LIU, **Dechang JIA** and Yu ZHOU. Microstructure and Mechanical Properties of a Lithium Tantalate-Dispersed-Alumina Ceramic Composite, *Ceramic International*, 2002, 28 (1): 111-114
 31. Daqing Wei, Qingchang Meng, **Dechang Jia**. Mechanical and tribological properties of hot-pressed h-BN/Si₃N₄ ceramic composites, *Ceramics International*, 2006, 32: 549-554
 32. **D. C. Jia**, Y. Zhou, T. C. Lei. Thermal Shock Resistance of SiC Whisker Reinforced Si₃N₄ Ceramic Composite, *Ceramics International*, 1996, 22 (1): 107-112
 33. Z. H. Huang, **D. C. Jia**, Y. Zhou, Y. J. Wang. Effect of a new additive on mechanical properties of hot-pressed silicon carbide ceramics, *Mater. Res. Bull.*, 2002, 37: 933-940
 34. Ke H, Zhou Y, **Jia DC**, et al. Crystallization and nanograin growth in SrBi₂Ta₂O₉ synthesized by a novel sol-gel process. *J Sol-gel Sci & Technol.*, 2005, 34 (2): 131-136
 35. Guo YP, Zhou Y, **Jia DC**. Fabrication of hydroxycarbonate apatite coatings with hierarchically porous structures, *Acta Biomaterialia*, 2008, 4 (2): 334-42. (IF=3.727)
 36. Guo YP, Zhou Y, **Jia DC**, Qingchang Meng. Fabrication and in vitro characterization of magnetic hydroxycarbonate apatite coatings with hierarchically porous structures, *Acta Biomaterialia*, 2008, 4 (4): 923-31. (IF=3.727)
 37. D. Q. Wei, Y. Zhou, **D. C. Jia**, Y. M. Wang. Characteristic and in Vitro Bioactivity of Microactivity of Microarc Oxidized TiO₂-Based Coating after Chemical Treatment. *Acta Biomaterialia*. 2007,3 (5): 817-827. (IF=3.727)
 38. Guo,YP; Zhou,Y; **Jia,DC**; Tang,HX. Fabrication and characterization of hydroxycarbonate apatite with mesoporous structure. *Microporous and Mesoporous Materials*, 2009, 118 (1-3):480-488. (IF=3.3)
- 授权发明专利
1. 周玉, **贾德昌**, 雷廷权, 温广武, 吴桂林. 一种六方氮化硼—熔石英复合材料及其制备方法, 专利号: ZL 200310102022.0
 2. **贾德昌**, 周立忠. 一种水基浆料凝胶注模成型用模具, 专利号: ZL200610009887.6
 3. **贾德昌**, 邵颖峰. 一种泡沫氮化硅陶瓷的制备方法. 专利号: ZL 200710144954.X
 4. **贾德昌**, 林铁松. 一种碳纤维增强无机聚合物基复合材料的制备方法, 专利号: ZL 20071014453.5



5. 贾德昌, 刘伯洋. 一种具有铁填充的碳空心球的制备方法, 专利号: ZL200610151125.X
6. 刘伯洋, 贾德昌. 以二茂铁和氯化铵为原料制备碳空心球的方法, 专利号: ZL 200610009813.2
7. 刘伯洋, 贾德昌. 以二茂铁和氯化铵为原料制备非晶态碳纳米管的方法, 专利号: ZL 200610009787.3
8. 贾德昌, 刘伯洋, 周玉. 具有磁性材料填充的碳空心球的制备方法, 专利号: ZL 200710071710.3