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主要研究方向

(1).特种连接技术及装备研究

针对新型材料如铝基复合材料、陶瓷等或异种材料的连接问题,探索超声波或振动辅助钎焊工艺、以及形变连接技术;

(2).连接界面结构及力学行为研究

研究和设计钎焊与扩散连接界面的微观组织结构特征,以及界面结构和IMC与力学性能之间的关系;

(3).焊接冶金学

研究焊接冶金反应动力学和热力学问题,焊缝金属结构与力学性能之间的关系,焊接裂纹形成的冶金因素和力学因素,设计新型焊接材料。

社会兼职

中国焊接学会钎焊及特种连接专委会-特种连接分委员会主任委员

中国焊接学会材料焊接性及焊接材料专委会委员

中国声学学会会员

主要学术成果

1. **Jiuchun Yan**, Zhiwu Xu, Gaohui Wu, Shiqin Yang. Interface structure and mechanical performance of TLP bonded joints of Al₂O₃p/6061Al composites using Cu/Ni composite interlayers. Scripta Materialia. 2004, 51(2):147-150
2. **YAN Jiuchun**, XU Zhiwu, Zhiyuan Li, Lei Li and Shiqin Yang. Microstructure characteristics and performance of dissimilar welds between magnesium alloy and aluminum formed by friction stirring. Scripta Materialia. 2005, 53(5):585-589
3. XU Zhiwu, **YAN Jiuchun**, Kong Xiangli, Yang Shiqin. Interface structure and strength of ultrasonic vibration liquid phase bonded joints of Al₂O₃p/6061Al composites. Scripta Materialia. 2005, 53 (7): 835-839
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5. **J.C. Yan**, H.B. Xu, L. Shi, X.L Wang, S.Q Yang. Vibration assisted brazing of SiCp/A356 composites: microstructure and mechanical behaviour. Science and Technology of Welding and Joining. 2008, 13(8):760-764
6. D.S. Zhao, **J.C. Yan**, C.W Wang, Y. Wang, S.Q Yang. Interfacial structure and mechanical properties of hot roll bonded joints of titanium alloy-stainless steel using copper interlayer. Science and Technology of Welding and Joining. 2008, 13(8): 765-768
7. **Yan Jiuchun**, Li Yinan, Zhang Yang, Yu Hanchen, Yang Shiqin. Microstructure and mechanical performance of weld-brazing of copper thick plates. Mater Sci Technol. 2007, 23(6):653-656
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10. XU Zhiwu, **YAN Jiuchun**, Yang Shiqin. Behaviors of oxide film at the ultrasonic aided interaction interface of Zn-Al alloy and Al₂O₃/6061Al composites in air. Materials Science and Engineering. 2006, 415/1-2: 80-86
11. Zhiwu Xu, **Jiuchun, Yan**, Jinna Liu, Shiqin Yang. Floating of SiC particles in a Zn-Al filler metal. Materials Science & Engineering A. 2008, 474(1-2):157-164
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13. **J.C. Yan**, D.S. Zhao, C.W. Wang, L.Y. Wang, Y. Wang and S.Q. Yang. Vacuum hot roll bonding of titanium alloy and stainless steel using Ni interlayer. Mater Sci Technol. 2009, 25(7): 914-918
14. **YAN Jiuchun**, Xu huibin, Yang Shiqin. Microstructure and mechanical performance of vacuum-free liquid phase bonded joints of SiCp/A356 composites aided by vibration. Trans.Nonferrous Met.Soc.China. 2005, 15(5): 993-996
15. **Yan Jiuchun**, Zhao Weiwei, Xu Huibin, et al. Ultrasonic brazing of aluminum alloy and aluminum matrix composite. USD Patent No.USP3875C, 2009
16. **闫久春**, 许惠斌, 石磊, 等. 铝合金及其复合材料非真空半固态振动流变连接方法. 授权专利号: ZL200610010098.4. 2008.
17. **闫久春**, 于汉臣, 许志武, 等. 厚板紫铜不预热氩弧熔焊方法. 授权专利号: ZL 200510009837.3. 2007.
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