



# 科技检索报告

项目名称：刘阁发表的论文在《SCI》数据库的收录情况

委托人：长江师范学院

委托日期：2025 年 11 月 14 日

查新机构（盖章）：教育部科技查新工作站(L02)

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专用章

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二〇一三年制

项目名称	刘阁发表的论文在《SCI》数据库收录情况					
查新机构	名称	教育部科技查新工作站(L02) 重庆大学科技查新站				
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<b>一、检索要求：</b> 署名长江师范学院刘阁发表的论文在《SCI》中的收录情况						
<b>二、文献检索范围</b> 《SCI-Expanded》 Science Citation Index Expanded 2025 年～2025 年						
<b>三、检索结果：</b> 根据用户委托，针对检索要求，通过数据库，对刘阁发表的论文在《SCI》数据库中的收录引用情况进行检索，结论如下： 刘阁发表的论文被《SCI》数据库收录 1 篇，为第一作者。 论文的详细信息见附件。						

重庆大学科技查新工作站(L02)  
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一、所发论文期刊 JCR 分区如下

序号	篇名	刊名	影响因子
1	Microstructure and mechanical properties of friction stir welded full annealing condition Al-Cu-Li alloys	MATERIALS TODAY COMMUNICATIONS	4.5(2024)
	类别	分区	
	MATERIALS SCIENCE, MULTIDISCIPLINARY (SCIE)	Q2	

二、所发论文期刊中科院升级版分区如下

序号	题名	刊名	ISSN	Review	Open Access	年份
1	Microstructure and mechanical properties of friction stir welded full annealing condition Al-Cu-Li alloys	MATERIALS TODAY COMMUNICATIONS		否	否	2025
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	大类分区	材料科学			3 区	否
	小类分区	MATERIALS SCIENCE, MULTIDISCIPLINARY 材料科学：综合			3 区	-

三、SCI 检索结果

第 1 条，共 1 条

文献标题: Microstructure and mechanical properties of friction stir welded full annealing condition Al-Cu-Li alloys

作者: Liu, G (Liu, Ge);Tian, MZ (Tian, Meizi);Chen, P (Chen, Peng);Wang, J (Wang, Jie);Chen, WH (Chen, Wenhao);Zhang, ZQ (Zhang, Zhiqing)

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摘要: The paper focuses on the friction stir welding (FSW) of Al-Cu-Li alloy in the fully annealed condition, with particular attention to its local microstructural evolution and mechanical properties. It was observed that nugget zones exhibit finely equiaxed grains resulting from sufficient dynamic recrystallization (DRX), primarily occurring through continuous dynamic recrystallization (CDRX) and discontinuous dynamic recrystallization (DDRX). In the thermo-mechanically affected zone (TMAZ), numerous equiaxed grains and sub-structured grains emerged due to partial DRX, indicating the development of CDRX, DDRX, and geometric dynamic recrystallization (GDRX). The precipitate characteristics of the heat affected zone (HAZ), TMAZ, and base material (BM) are fundamentally consistent, specifically, there exists a significant amount of coarse equilibrium phases at grain boundaries, which exhibit relatively low hardness. The microhardness values of the nugget zone (NZ) and HAZ are comparable, exhibiting the lowest hardness region in the welded joint, with an average value of approximately 50.5 HV. These equilibrium phases predominantly undergo dissolution within the NZ, exhibiting a marked solid solution strengthening effect that enhances hardness, with a peak value reaching 125.2 HV. From advancing side to retreating side of the NZ, dissolution of the phases gradually decreases, leading to a sequential reduction in solid solution strengthening effects across these three regions. Consequently, the increment in hardness diminishes progressively, with a minimum hardness of about 69.8 HV, resulting in a 'n'-shaped distribution of overall joint hardness. The FSW joints exhibit a maximum tensile strength of 179.9 MPa, corresponding to approximately

95.0 % of the BM, while the elongation at fracture reaches 13.4 %, representing 68.7 % of the BM. Both tensile fracture surfaces for the joints and BM reveal numerous dimples indicative of ductile fracture characteristics. However, the joints exhibit lower uniform deformation capability compared to base materials, indicating that their post-fracture elongation is less than that of the BM.

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**作者关键词:** Annealed condition Al-Cu-Li alloy; Friction stir welding; Microstructure; Phase; Mechanical properties

**KeyWords Plus:** EVOLUTION; PRECIPITATION; BEHAVIOR; JOINTS

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