

## 研究论文

### 粘结NiMnGaSi合金的结构、相变和大磁致应变研究

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#### 摘要:

采用还原扩散方法制备了NiMnGaSi合金粉末, 并粘结成磁体. 磁测量表明粘结磁体的马氏体相变开始温度 $M_S$ 为308 K, 居里温度 $T_C$ 为358 K. 磁致应变测量发现粘结NiMnGaSi磁体在300 K、0.7 T的磁场下具有0.56%大磁致应变.

**关键词:** 金属材料 还原扩散法 粘结 马氏体相变 磁致应变 NiMnGa合金

### An investigation of structure transformation and giant magnetic-field-induced strain in bonded NiMnGaSi alloy

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#### Abstract:

NiMnGaSi alloy powder was prepared by diffusion-reduction method and then bonded and shaped a cuboid. The magnetic properties of the sample show that a martensitic transformation starts at 308 K and the Curie temperature is 358 K. The NiMnGaSi alloy shows a 0.56% giant strain at room temperature under a magnetic field of 0.7 T.

**Keywords:** metallic materials diffusion-reduction method bonded martensitic transformation magnetic field induced strain NiMnGa alloys

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