

Superelastic bulk NiTi alloy samples prepared by spark plasma sintering

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NiTi alloys are widely used shape memory alloys due to their outstanding functional properties. Preparation of bulk NiTi with fine microstructures and high resistance to plastic deformation remains a challenge. Spark plasma sintering (SPS) theoretically enables to prepare such bulk NiTi. We synthesized, using SPS, bulk NiTi samples, exhibiting cyclic superelasticity in tension when sintering times were sufficiently long. Short times led to premature fracture in the elastic deformation regime.

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Zařazení sekce: Preparation techniques and analysis