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INVESTIGATING THE HIGGS BOSON AND ITS ROLE IN MASS GENERATION

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EXPLORING THE PROPERTIES OF EXOTIC PARTICLES IN HIGH-ENERGY COLLIDERS

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Magnetic Memory and the Promising Magnetocaloric Effect of $\text{Sn}_{0.6}\text{Cr}_{0.1}\text{Ge}_{0.3}\text{Te}$ Solid Solution Synthesized by Sealed Tube Solid-State Reaction

K Manjunatha, Hao Zhang, Hsin-Hao Chiu, Ming-Kang Ho, Tsu-En Hsu, Shih-Lung Yu, NS

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This study investigates the magnetic memory and magnetocaloric effects of $\text{Sn}_{0.6}\text{Cr}_{0.1}\text{Ge}_{0.3}\text{Te}$ solid solution synthesized by a sealed tube solid-state reaction. $\text{Sn}_{0.6}\text{Cr}_{0.1}\text{Ge}_{0.3}\text{Te}$ exhibits ferromagnetic order at Curie temperature ($T_C = 182$ K) and a super spin-glass structure below the blocking temperature. The magnetic memory effect is observed below the spin-glass state, and the change in magnetic entropy is estimated for various magnetic fields. At a magnetic field strength of 60 kOe, the refrigerant capacity, relative cooling power, and the maximum change in magnetic entropy ($-\Delta S_M$) values are measured to be 5.5 J/kg, 7.5 J/kg, and 0.107 J/kg-K, respectively. These findings

