Magnetocaloric properties of the Fe$_2$MnGa Heusler alloy

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Magnetocaloric effect in Fe$_{46}$Mn$_{24}$Ga$_{30}$ Heusler alloy (HA) was investigated. This alloy exhibits martensitic transformation accompanied with paramagnetic to ferromagnetic transition with a huge increase in magnetization at martensite start temperature $M_S = 166$ K. $M_S$ is shifted up to 190 K by the external magnetic field of $\mu_0H = 5$ T. Significant isothermal entropy change $\Delta S_M = 13.4$ J/K kg and refrigerant capacity $RC(\Delta\mu_0H = 5T) = 208$ J/kg make this HA perspective for practical applications.