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Enhanced magnetic coercivity and maximum energy product in double-perovskite Y_2CoMnO_6 single crystals HWAN YOUNG CHOI, S.H. OH, J.Y. MOON, M.K. KIM, D.G. OH, N. LEE, Y.J. CHOI, Yonsei university — We have investigated the influence of different annealing conditions on the magnetic properties on the single crystals of double-perovskite Y_2CoMnO_6. The ferromagnetic moment along the c-axis with the large magnetic coercivity and high squareness ratio was observed. Particularly, in the quenched specimen, the magnetic functionality has been greatly improved compared to that of the as-grown crystal. The magnetic coercivity and maximum energy product have been increased by ∼120% and ∼50%, respectively, by comprising substantial disorders and defects. Our result renders an efficient route to improve the magnetic functionality in mixed-valent magnets.

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