



Magnetization plateau of the compound



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Abstract. Using the density matrix renormalization group method of the spin 1/2 magnetic behavior of the compound $K_3Cu_3AlO_2(SO_4)_4$, which represents the physical realization of the diamond chain, was studied. For the values $J_1 = J_3 = 132K$, $J_2 = 336K$ of coupling constants we obtained the magnetization plateau in the region 50-300 T of the external magnetic field. We used the ALPS (Algorithms and Libraries for Physics Simulations) library for the numerical calculations.

Keywords: magnetization plateau, diamond chain, DMRG

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