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Low-temperature density matrix renormalization group study on spin-1/2 zigzag XY chains SHIGETOSHI SOTA, TAKANORI SUGIMOTO, TAKAMI TOHYAMA, Yukawa Institute for Theoretical Physics, Kyoto University — We have investigated the effect of the thermal fluctuation on spin-1/2 zigzag XY chains by using the Low-temperature dynamical density matrix renormalization group [1] that we have developed recently. At zero temperature, gapless and gapful excitations of the vector spin chirality are confirmed for systems with and without the chiral order, respectively, and change smoothly with temperature. On the other hand, at finite temperatures, the chirality excitation spectra show contrasting behaviors between the cases with and without the chiral order. In particular, we found a characteristic temperature in the gapful case, where the spectral weight changes dramatically. [1] S. Sota and T. Tohyama, Phys. Rev. B **78**, 13101 (2008)

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