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Finite Size Scaling and Universality in SU(2) Lattice Gauge Theory at Finite Temperature YUZHI LIU, ALAN DENBLEYKER, YANNICK MEURICE, Department of Physics and Astronomy, University of Iowa, ALEXAN-DER VELYTSKY, Physics Department, Brookhaven National Laboratory — We study the 4-th Binder cumulant on $N_{\tau} \times N_{\sigma}^{3}$ lattices for a pure SU(2) gauge theory. We use a finer β resolution than previous studies in intervals shrinking with the volume in order to reduce the nonlinear effects. We compare different error analysis procedure for the Binder cumulant. We discuss the significance of the small discrepancies between our estimates of the critical exponents and the known values for the 3D Ising model.

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