## 1

## Results

1 1	
method	β
power law fit of $m(t = 0, \chi) \sim$	0.124999
$\xi(\chi)^{\beta}$ , and varying which data	
points to use. $\chi \in \{8, \ldots, 112\}.$	
best fit (polynomial fit of order 5)	$0.12467 (\kappa = 1.9256)$
of $\kappa$ and $\beta$ in a data collapse with	
$\xi(\chi) \sim \chi^{\kappa}$ . $\Delta t = 0.001$ . $\chi \in$	
$\{12, 20, \ldots, 60\}.$	
best fit (polynomial fit of order 5) of	0.12461
$\beta$ in a data collapse with $\xi(\chi)$ from	
row-to-row transfer matrix. $\Delta t =$	
$0.001. \ \chi \in \{12, 20, \dots, 60\}.$	

By fitting a power law

$$\xi(\chi) \sim \chi^{\kappa}$$

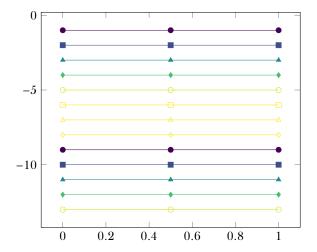
to the correlation length given by the transfer matrix at  $T_{
m crit}$ , I find

$$\kappa \approx 1.9$$

For the fitness of the data collapse, I use the percentual norm of residuals of a polynomial fit of order 5 through all data points.

Another option that I tried was the percentual mean-squared error between the interpolations of data points of lower  $\chi$  and the data points of the highest value of  $\chi$ . Both options are suggested in [2].

A generalization of the latter option is presented in [1]. Here, the fitness is judged not only relative to the highest value of  $\chi$ , but relative to all values of  $\chi$  with equal weight.



## **Bibliography**

- [1] Somendra M Bhattacharjee and Flavio Seno. "A measure of data collapse for scaling". In: *Journal of Physics A: Mathematical and General* 34.33 (2001), p. 6375.
- [2] Anders W Sandvik, Adolfo Avella, and Ferdinando Mancini. "Computational studies of quantum spin systems". In: AIP Conference Proceedings. Vol. 1297. 1. AIP. 2010. Chap. 3, pp. 135–338.