

## Peer Feedback

Write a few to 10 lines for each question.

Group that you are giving feedback: Group 1: Heisenberg model

Name something new you learned about this topic from reading the report

Most interesting part was probably the smart ghost cell exchanging.

What made you think more about the topic, and what was useful, but unnecessary info?

I liked that you implemented two different parallelized versions. When motivating the second implementation, I thought “Yeah, that makes perfect sense. Of course you should do that”.

Name a few concepts or words that were unknown or difficult for you?

Less so words, more that the change from strict math-talk in section 1 to the more computer science-talk in section 2.

What are “standard vectors”? Is that just a synonym for a standard basis? Is it vectors from the standard C++ library?

Find a paragraph in the report that works well and explain why.

Section 3 clearly describes how and why you choose the two implementations. It was easy to understand the intentions of your choices. I also think the technical level is very appropriate, only mentioning the MPI functions used without going into too much detail.

Which part of the group’s report do you feel is the strongest.

Definitely section 3, for the same reasons as explained above. Another thing to add is that by creating the two versions where one ought to be better than the other, the reader has something to look forward to in the coming results section. Did their smart ghost cell exchange work?

Additional Feedback (optional).

Nitpicks:

- Don’t forget to explain what all the symbols in equations mean. In the flip probability, most physicists know what  $k_B$  and  $T$  are, but what about the CS students and similar?

- Equations, figures etc. are proper names and when referenced, they should be capitalized.
- In section 4, you write #spins one place and #spin later in Eq 2. Are these the same thing? I would have preferred a symbol for the number of spins instead of “#spins”.
- To further confirm that the sequential implementation actually is within stochastic fluctuations, you could have performed repeated measurements to get uncertainties on the points.
- It felt a bit odd to have theory and results mixed. Absolutely not a deal-breaker, but I would have preferred you to introduce things like critical temperature and heat capacity before your results.
- Would have been nice with a p-value of the fits.