

# Variational Monte Carlo studies of quantum mechanical systems (WIP title)

Anna Stray Rongve      Knut Magnus Aasrud  
Amund Midtgard Raniseth

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**Abstract**

## Introduction

### Some Pandoc Markdown syntax

I'm sure you're both familiar with the common Markdown syntax, and this applies just as well here. Pandoc exports links to the compiled PDF, so I often use them liberally, like this. If you want *inline math*, you just write a set of dollar signs, like this:  $f(x) = \sin(x)$ . Most commonly though, you'll probably want *display math*, which is just as simple to write. Be sure to have a couple of newlines as padding, and just use a double set of dollar signs, like this:

$$E(\alpha) = \frac{\langle \psi(\alpha) | \mathcal{H} | \psi(\alpha) \rangle}{\langle \psi(\alpha) | \psi(\alpha) \rangle}$$

By default, these are not numerated (which I think is sensible). However, if you want them numerated, you just use the following syntax to assign a label

$$E_L(X) = \frac{\mathcal{H}\psi(X, \alpha)}{\psi(X, \alpha)}, \tag{1}$$

and then reference the equation by using the same label. See eq. (1) (beware that this will not show up in the Markdown Preview pane. You'll need to compile the document to see the result).

One thing I find quite useful is to use footnotes throughout the document to give short insights (especially in the theory part). This is simple with Pandoc;

just use this syntax<sup>1</sup>. In addition, we can site all references (defined in the `kodb.yaml`-file) with this syntax (see Aasrud, Rongve, and Raniseth 2019).

**Theory**

**Results**

**Discussion**

**Conclusion**

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<sup>1</sup>Welcome to the footer! How are you?

## Appendix

### References

Aasrud, K. M., A. S. Rongve, and A. M. Raniseth. 2019. “Project 3.” [https://github.com/kmaasrud/gq-mcm-fys3150/blob/master/doc/Project-3\\_Aasrud-Raniseth-Rongve.pdf](https://github.com/kmaasrud/gq-mcm-fys3150/blob/master/doc/Project-3_Aasrud-Raniseth-Rongve.pdf).