This is a Very Important Title!

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This abstract is abstract.

If you want to learn more about using LaTeX, you should check UiO's official tutorials: https://www.mn.uio.no/ifi/tjenester/it/hjelp/latex/

If you are familiar with LaTeX and you want to learn more about the REVTeX4-1 document class, check: http://www.physics.csbsju.edu/370/papers/Journal_Style_Manuals/auguide4-1.pdf

I. INTRODUKSON

II. TEORI

A. Vet ikke om denne kan være med

I dette eksperimentet skal vi bruke Crank-Nicolson tilnærmingen. Denne kombinerer to andre tilnærminger: forrover differanse og bakover differanse. Forover differanse baserer seg på å at man kan finne stigningen mellom et punkt u_i^n og neste punkt u_i^{n+1} ved ligningen

$$\frac{u_i^{n+1} - u_i^n}{\Delta t} = \frac{u_{i+1}^n - 2u_i^n + u_{i-1}^n}{(\delta x)^2}$$

Vi ser her på kun i én dimensjon. Vi har også antatt at tidstegene er så små at punktet u_i^n kun kan bli påvirket av nabopunktene. Da får vi at

$$u_i^{n+1} = u_i^n + (u_{i+1}^n - 2u_i^n + u_{i-1}^n)\frac{\Delta t}{(\Delta x)^2}$$

Hvis vi nå definerer $\alpha \equiv \frac{\Delta t}{(\Delta x)^2}$ får vi at

$$u_i^{n+1} = (1 - 2\alpha)u_i^n + \alpha(u_{i+1}^n + u_{i-1}^n)$$

Så har vi bakover differanse som baserer seg på å finne stigningen mellom forrige tidspunkt u_i^{n-1} og det nåværende tidpunktet u_i^n.

$$\frac{u_i^n - u_i^{n-1}}{\Delta t} = \frac{u_{i+1}^n - 2u_i^n + u_{i-1}^n}{(\Delta x)^2}$$

og på samme måte som med forover får vi nå

$$u_i^{n-1} = (1 + 2\alpha)u_i^n - \alpha(u_{i+1}^n + u_{i-1}^n)$$

B. Numerisk tillnærming

V har da fra Schrödingerlikningen at

$$i\frac{\delta u}{\delta t} = -\frac{\delta^2 u}{\delta^2 x} - \frac{\delta^2 u}{\delta^2 y} + v(x, y)$$

Av Crank-Nicolson har vi at

$$\frac{u_i^{n+1} - u_i^n}{\delta t} = \frac{1}{2}(\frac{u_{i+1}^{n+1} +}{(\delta x)^2})$$

III. METODE

IV. RESULTATER

V. DISKUSJON

VI. CONKLUSJON

ACKNOWLEDGMENTS

I would like thank myself for writing this beautiful document.

REFERENCES

- Reference 1
- Reference 2

Appendix A: Name of appendix

This will be the body of the appendix.

Appendix B: This is another appendix

Tada.

Note that this document is written in the two-column format. If you want to display a large equation, a large figure, or whatever, in one-column format, you can do this like so:

This text and this equation are both in one-column format. [?]

$$\frac{-\hbar^2}{2m}\nabla^2\Psi + V\Psi = i\hbar\frac{\partial}{\partial t}\Psi \tag{B1}$$

Note that the equation numbering (this: B1) follows the appendix as this text is technically inside Appendix B. If you want a detailed listing of (almost) every available math command, check: https://en.wikibooks.org/wiki/LaTeX/Mathematics.

And now we're back to two-column format. It's really easy to switch between the two. It's recommended to keep the two-column format, because it is easier to read, it's not very cluttered, etc. Pro Tip: You should also get used to working with REVTeX because it is really helpful in FYS2150.

One last thing, this is a code listing:

```
This will be displayed with a cool programming font!
```

You can add extra arguments using optional parameters:

```
This will be displayed with a cool programming font!
```

You can also list code from a file using `lstinputlisting`. If you're interested, check https://en.wikibooks.org/wiki/LaTeX/Source_Code_Listings.

This is a basic table:

Table I. This is a nice table

Hey	Hey	Hey
Hello	Hello	Hello
Bye	Bye	Bye

You can a detailed description of tables here: https://en.wikibooks.org/wiki/LaTeX/Tables.

I'm not going to delve into Tikz in any level detail, but here's a quick picture:

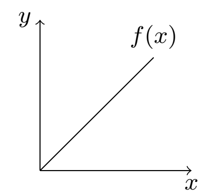

Figure 1. This is great caption

If you want to know more, check: https://en.wikibooks.org/wiki/LaTeX/PGF/TikZ.