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

Legger vi til flere partikler i systemet som kan påvirke hverandre med Coloumb krefter, så får vi en bevegelse som ser slik ut:

$$\ddot{x}_i - \omega_{0,i}\ddot{y}_i - \frac{1}{2}\omega_{z,i}^2 x_i - k_e \frac{q_e}{m_i}\sum_{j\neq i} q_j \frac{x_i - x_j}{|\vec{r}_i - \vec{r}_j|^3} = 0$$

$$\ddot{y}_i - \omega_{0,i}\ddot{x}_i - \frac{1}{2}\omega_{z,i}^2 y_i - k_e \frac{q_e}{m_i}\sum_{j\neq i} q_j \frac{y_i - y_j}{|\vec{r}_i - \vec{r}_j|^3} = 0$$

$$\ddot{z}_i + w_{z,i}^2 0 z_i - k_e \frac{q_e}{m_i}\sum_{j\neq i} q_j \frac{z_i - z_j}{|\vec{r}_i - \vec{r}_j|^3} = 0$$

Som det vil bli forklart dypere hvordan i Metode-delen skal vi bruke to numeriske metoder for å simulere banen. Den ene er Eulers meotde og den andre er Runge Kutta 4. For Euler-Cromer vil vi ha en feilorden av orden $O(h)$

III. METODE

Enpartikkelsystemet

Vi starter først med et enpartikkelsystem. Vi setter partikkelen i samme posisjon som i den analytiske delen, altså

$$\vec{r}(0) = \begin{bmatrix} x_0 \\ 0 \\ 0 \end{bmatrix}$$

og

$$\vec{v} = \begin{bmatrix} 0 \\ v_0 \\ 0 \end{bmatrix}$$

hvor vi setter $x_0 = 1\mu m$ og $v_0 = 1\frac{\mu m}{\mu s}$ for enkelhetsskyld. Vi bruker så at det elektriske feltet kan skrives som

$$\vec{E} = \left\{ \begin{array}{c} V0\frac{x}{d^2} \\ V_0\frac{y}{d^2} \\ -2V_0\frac{z}{d^2} \end{array} \right\}$$

og det magnetiske feltet er $\vec{B} = (0, 0, B_0)$. Vi vet også at den eksterne kraften er gitt som

$$\vec{F}_{eks} = q\vec{E} + q\vec{v} \times \vec{B}$$

og slik kan vi regne ut den eksterne kraften. Så skal vi bruke dette som kraften når vi bruker de numeriske metodene. Vi starter med Eulers metode som er ganske rett fram:

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:

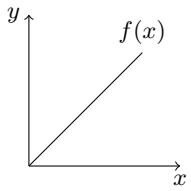

Figure 1. This is great caption

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