

A sample presentation

With ramblings from a madman

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1 A section

- ➡ A subsection
- ➡ Another subsection

Title

The quick brown fox jumps over the lazy dog [1].

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$$i\hbar\partial_t |\Psi\rangle = \hat{H} |\Psi\rangle \quad (1)$$

What

What

- ▶ One.

What

- ▶ One.
- ▶ Two.

What

- ▶ One.
- ▶ Two.
- ▶ Three.

The state of the world

Théorème 1.1 : Birb

Birbs exist.

Colorbox test

A very important result.

A test of what the box environment looks like

This is the fundamental theorem of calculus :

$$\int_a^b f(t) \, dt = F(b) - F(a) \quad (2)$$

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- ▶ thing to say;
- ▶ another thing to say;
- ▶ consider $\mathbf{F} = m\ddot{\mathbf{x}}$.

A simple derivation

Extremization of the action entails :

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Extremization of the action entails :

$$\begin{aligned} 0 = \delta \mathcal{S} &= \int_{t_i}^{t_f} dt \delta \mathcal{L} \\ &= \int_{t_i}^{t_f} dt \left[\frac{\delta \mathcal{L}}{\delta q} \delta q + \frac{\delta \mathcal{L}}{\delta \dot{q}} \delta \dot{q} \right] \\ &= \int_{t_i}^{t_f} dt \left[\frac{\delta \mathcal{L}}{\delta q} - \frac{d}{dt} \frac{\delta \mathcal{L}}{\delta \dot{q}} \right] \delta q + \underbrace{\int_{t_i}^{t_f} dt \frac{d}{dt} \left(\frac{\delta \mathcal{L}}{\delta \dot{q}} \delta q \right)}_{\text{vanishes (B.C.s)}} \end{aligned}$$

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$$\Rightarrow \boxed{\frac{\delta \mathcal{L}}{\delta q} - \frac{d}{dt} \frac{\delta \mathcal{L}}{\delta \dot{q}} = 0}$$

The converse is equally true, hence :

$$\boxed{\delta S = 0 \text{ & B.C.s} \iff \frac{\delta \mathcal{L}}{\delta q} - \frac{d}{dt} \frac{\delta \mathcal{L}}{\delta \dot{q}} = 0} \quad (4)$$

Testing columns

This is a Woodcock. Its features are :



Testing columns

This is a Woodcock. Its features are :

- ➡ A beak



Testing columns

This is a Woodcock. Its features are :

- ➡ A beak
- ➡ Wings



Testing columns

This is a Woodcock. Its features are :

- ➡ A beak
- ➡ Wings
- ➡ A brain (barely)



Testing columns

This is a Woodcock. Its features are :

- ➡ A beak
- ➡ Wings
- ➡ A brain (barely)
- ➡ Camouflage



Questions (2 minutes)

Thank You!

Bibliography I



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