Workshop on LyX

N. M. R. Peres

17 de dezembro de 2022

Univeristy of Minho, Braga, Portugal

Resumo

Nesta workshop iremos ver o funcionamento básico do LyX, incluindo o uso de floats.

Conteúdo

1 Basic notions

1. Equations
   (a) Formulas
   (b) Inline equations
2. Latex commands
3. Flots
4. Bibliography

These four topics will be covered in this workshop.

1.1 Integrals

My fisrt equation

$$n! = n(n-1)(m-2)\cdots 2 \times 1 \tag{1}$$

x	y	z
1	2	3
4	5	6

Tabela 1: Position of the bike in two different experiments.

1.2 Equations using LaTeX

$$\int_0^2 e^{-x} dx = -e^{-x}|_0^2 = 1 - e^{-2}. \tag{2}$$

Consideremos que a força é da forma

$$f(x) = \prod_{i=1}^{n} \frac{(-1)^i}{x^i}, \tag{3}$$

então a segunda lei de Newton é dada por $m\ddot{x} = f(x)$

$$\int_0^1 e^{-x} dx = -e^{-x}|_0^1 = 1 - e^{-1} \tag{4}$$

Equation (4). This equation was first found in ref. [2]

2 Tables

$$\hat{L}_z = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & -1 \end{bmatrix}. \tag{5}$$

The $z-$component of the spin 1 angular momentum is given by Eq. (5). For spin $1/2$ the vector of the Pauli matrices is

$$\overrightarrow{\sigma} = (\sigma_x, \sigma_y, \sigma_z). \tag{6}$$

The Hamiltonian of a spin $1/2$ in a magnetic field reads

$$H = g\overrightarrow{B} \cdot \overrightarrow{\sigma}. \tag{7}$$

Writing the Hamiltonian in bold math

$$H = g\mathbf{B} \cdot \boldsymbol{\sigma}. \tag{8}$$

The σ_y Pauli matrix is defined as

$$\sigma_y = \begin{pmatrix} 0 & -i \\ i & 0 \end{pmatrix}. \tag{9}$$

Figura 1: My dream bike.

3 Flots (Figures)

Figure 1 was the bike used in the experiments whose data is in table 1. The characteristic of the bike can be found in ref. [1]

Referências

[1] N. M. R. Peres, *Dictionary of mountain bike*, (Oxford University, Oxford, 2023).

[2] N. M. R. Peres, Ensaio sobre borboletas, (Cambridge University Press, Cambridge, 2055).