

# Report workbook

John Doe

Quantum physics grew up widely in the second half of the 20th century, many people contributed to pushing forward on many quantum technologies. I was highly unaware of the new achievements that quantum technologies can give us in the forthcoming years and this is a great surprise to me because I can now learn from some of the cutting-edge that are performing on the quantum scene.





Departamento de  
Física de la  
Materia Condensada  
**Universidad** Zaragoza

# Report workbook

**John Doe**

John Doe University

September 2021

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# Glossary

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Glossary item 1 Glossary item 1 [1](#)

Glossary item 2 Glossary item 2 [1](#)

## **Declaration**

I hereby declare that the work presented in this thesis is entirely my own and that I did not use any other sources and references than the listed ones. I have marked all direct or indirect statements from other sources contained therein as quotations. Neither this work nor significant parts of it were part of another examination procedure. I have not published this work in whole or in part before. The electronic copy is consistent with all submitted copies.

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Zaragoza (Aragón), September 2021



# Abstract

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This is justified text.

# 1

## Introduction

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This is an introduction. **this is bold** *this is italic text*

This is Glossary item 1 and this is Glossary item 2.

Citation here<sup>[1]</sup>. Footnote url here<sup>1</sup>.

Another footnote simple<sup>2</sup>.

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<sup>1</sup><http://google.com>

<sup>2</sup>this is a footnote

## Another chapter

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This is a chapter.

Second page.

Footnote url here with header<sup>3</sup>.

$$f = 28 \cdot \sqrt{(B_{DC} + (N_y - N_x) \cdot 0.86 \cdot 10^6 \cdot 4\pi \cdot 10^{-7}) \cdot (B_{DC} + (N_z - N_x) \cdot 0.86 \cdot 10^6) \cdot 4\pi \cdot 10^{-7}}$$

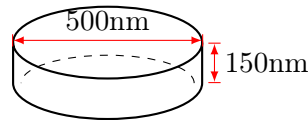
**Equation 2.1:** Theoretical Kittel equation expanded for a Permalloy thin-film for X-axe

## 2.1 Section here

This is a new section.

| <i>Item</i><br><i>size1</i><br>(nm) | <i>Item</i><br><i>size2</i><br>(nm) |
|-------------------------------------|-------------------------------------|
| 8                                   | 600                                 |
| 10                                  | 400                                 |
| 12                                  | 300                                 |

**Table 2.1:** Sample table



**Figure 2.1:** Disc sample figure

| <i>Item</i><br><i>one</i><br>(m) | <i>Item</i><br><i>two</i><br>(m) | <i>Item</i><br><i>three</i><br>(m) | <i>Item</i><br><i>four</i><br>(m) |
|----------------------------------|----------------------------------|------------------------------------|-----------------------------------|
| 8                                | $15000 \times 800 \times 60$     | 7.5413550                          | 0                                 |
| 10                               | $15000 \times 450 \times 60$     | 9.4630770                          | 0                                 |
| 12                               | $15000 \times 350 \times 60$     | 10.368898                          | 0                                 |

**Table 2.2:** Table with complex cells

<sup>3</sup><http://google.com>

| <i>Item size</i><br>( $\mu\text{m}$ ) | <i>Object</i><br>(m) | <i>Object width</i><br>(nm) | <i>Current</i><br>(mA) | <i>Gap @ 500nm</i><br>(nT) | <i>Gap @ 1<math>\mu\text{m}</math></i><br>(nT) |
|---------------------------------------|----------------------|-----------------------------|------------------------|----------------------------|--|
| $15 \times 0.800 \times 0.06$         | 259.07               | 300                         | $1.61000 \times 10^4$  | 51.66902                   | 29.08373                                       |
|                                       |                      | 400                         |                        | 50.82305                   | 28.93193                                       |
|                                       |                      | 600                         |                        | 48.54992                   | 28.49336                                       |
| $15 \times 0.450 \times 0.06$         | 224.42               | 300                         | $2.37000 \times 10^4$  | 76.05934                   | 42.81274                                       |
|                                       |                      | 400                         |                        | 74.81401                   | 42.58931                                       |
|                                       |                      | 600                         |                        | 71.46784                   | 41.94378                                       |
| $15 \times 0.350 \times 0.06$         | 229.52               | 300                         | $2.64000 \times 10^4$  | 84.72435                   | 47.69013                                       |
|                                       |                      | 400                         |                        | 83.33715                   | 47.44119                                       |
|                                       |                      | 600                         |                        | 79.61009                   | 46.72226                                       |

Table 2.3: Complex table 2

Important note: This is a nice TODO note.

# Epilogue

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This ia an epilogue.

# Bibliography

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- <sup>[1]</sup> Yi Li, Tomas Polakovic, Yong-Lei Wang, Jing Xu, Sergi Lendinez, Zhizhi Zhang, Junjia Ding, Trupti Khairé, Hilal Saglam, Ralu Divan, John Pearson, Wai-Kwong Kwok, Zhili Xiao, Valentine Novosad, Axel Hoffmann, and Wei Zhang. Strong coupling between magnons and microwave photons in on-chip ferromagnet-superconductor thin-film devices. *Physical review letters*, 123:107701, September 2019.

# List of Publications

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- <sup>[1]</sup> Fernando Luis, Pablo J. Alonso, Olivier Roubeau, Verónica Velasco, David Zueco, David Aguila, Leoní A. Barrios, and Guillem Aromí. A dissymmetric  $[\text{gd}_2]$  coordination molecular dimer hosting six addressable spin qubits, 2020.
- <sup>[2]</sup> Salvatore Savasta, Omar Di Stefano, Alessio Settinieri, David Zueco, Stephen Hughes, and Franco Nori. Gauge principle and gauge invariance in quantum two-level systems, 2020.