



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

# Report workbook

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# Contents

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|                             | Page       |
|-----------------------------|------------|
| <i>List of Figures</i>      | <i>II</i>  |
| <i>List of Tables</i>       | <i>III</i> |
| <i>List of Equations</i>    | <i>IV</i>  |
| <i>Glossary</i>             | <i>V</i>   |
| <i>Declaration</i>          | <i>VI</i>  |
| <i>Abstract</i>             | <i>VII</i> |
| <b>1 Introduction</b>       | <b>1</b>   |
| <b>2 Another chapter</b>    | <b>2</b>   |
| 2.1 Section here . . . . .  | 3          |
| <i>Epilogue</i>             | <i>6</i>   |
| <i>Bibliography</i>         | <i>7</i>   |
| <i>List of Publications</i> | <i>8</i>   |

# List of Figures

---

|   | Page |
|---|------|
| 2.1 Prism drawing . . . . .   | 2    |
| 2.2 Disc sample figure . . . . .  | 3    |
| 2.3 Set of two images . . . . .   | 4    |
| 2.4 This is a single image . . . . .  | 4    |
| 2.5 Set of two images, this reference will show up in this caption but it will hide in List<br>Of Figures . . . . . | 5    |

# List of Tables

---

|  | Page |
|--|------|
| 2.1 Sample table . . . . .             | 3    |
| 2.2 Table with complex cells . . . . . | 3    |
| 2.3 Complex table 2 . . . . .          | 4    |

# List of Equations

---

|   | Page |
|---|------|
| 2.1 Theoretical Kittel equation expanded for a Permalloy thin-film for X-axis . . . . . | 3    |

# 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), October 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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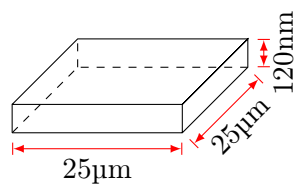
<sup>1</sup><http://google.com>

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

## Another chapter

---

This is a chapter.



**Figure 2.1:** Prism drawing

Second page.

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

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

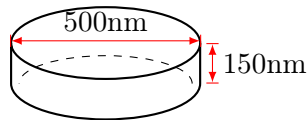
**Equation 2.1:** Theoretical Kittel equation expanded for a Permalloy thin-film for X-axis

## 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 2.2:** 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 × 800 × 60                 | 7.5413550                          | 0                                 |
| 10                               | 15000 × 450 × 60                 | 9.4630770                          | 0                                 |
| 12                               | 15000 × 350 × 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</i><br>@ 500nm<br>(nT) | <i>Gap</i><br>@ 1 $\mu\text{m}$<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.



(a) Image 1



(b) Image 2

**Figure 2.3:** Set of two images**Figure 2.4:** This is a single image



(a) Image 1



(b) Image 2

**Figure 2.5:** Set of two images, this reference<sup>[1]</sup> will show up in this caption but it will hide in List Of Figures

# Epilogue

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This ia an epilogue.

# Bibliography

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- [1] 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.
- [2] Sergio Martínez-Losa Del Rincón. Unofficial LaTeX template for reports/books/thesis with corporate logos of Universidad de Zaragoza with a beautiful look and feel. <https://github.com/sergiomtzlosa/latex-template-report-unizar>, 2021.

# 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.