

Report workbook

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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.



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Glossary

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.

Zaragoza (Aragón), October 2021

Abstract

This is justified text.

Introduction

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

This a reference^[1].

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

Citation here. Footnote url here¹.

Another footnote simple².

Bibliography

- [1] Yi Li, Tomas Polakovic, Yong-Lei Wang, Jing Xu, Sergi Lendinez, Zhizhi Zhang, Junjia Ding, Trupti Khaire, 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.

¹<http://google.com>

²this is a footnote

Another chapter

This is a chapter^[1].

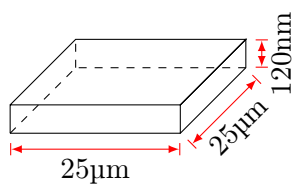


Figure 2.1: Prism drawing

Second page.

Footnote url here with header³.

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

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

Table 2.1: Sample table

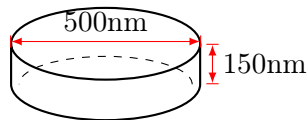


Figure 2.2: Disc sample figure

| <i>Item</i> <i>one</i> (m) | <i>Item</i> <i>two</i> (m) | <i>Item</i> <i>three</i> (m) | <i>Item</i> <i>four</i> (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

³<http://google.com>

| <i>Item size</i> (μm) | <i>Object</i> (m) | <i>Object width</i> (nm) | <i>Current</i> (mA) | <i>Gap</i> @ 500nm (nT) | <i>Gap</i> @ 1 μm (nT) |
|---------------------------------------|----------------------|-----------------------------|------------------------|-------------------------------|---|
| $15 \times 0.800 \times 0.06$ | 259.07 | 300 | 1.61000×10^4 | 51.66902 | 29.08373 |
| | | 400 | | 50.82305 | 28.93193 |
| | | 600 | | 48.54992 | 28.49336 |
| $15 \times 0.450 \times 0.06$ | 224.42 | 300 | 2.37000×10^4 | 76.05934 | 42.81274 |
| | | 400 | | 74.81401 | 42.58931 |
| | | 600 | | 71.46784 | 41.94378 |
| $15 \times 0.350 \times 0.06$ | 229.52 | 300 | 2.64000×10^4 | 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^[2] will show up in this caption but it will hide in List Of Figures

Bibliography

- ^[1] Niobium Superconducting Nanowire, Anthony J. Annunziata, Daniel F. Santavicca, Joel D. Chudow, Luigi Frunzio, Michael J. Rooks, Aviad Frydman, and Daniel E. Prober. Single-photon detectors. *Physical review letters*, 2006.
- ^[2] Francesco Giazotto and María José Martínez-Pérez. The josephson heat interferometer. *Nature*, 492(7429):401–405, Dec 2012.

Epilogue

This ia an epilogue.

List of Publications

- ^[1] 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.
- ^[2] Salvatore Savasta, Omar Di Stefano, Alessio Settineri, David Zueco, Stephen Hughes, and Franco Nori. Gauge principle and gauge invariance in quantum two-level systems, 2020.