



TECHNISCHE  
UNIVERSITÄT  
WIEN

DISSERTATION

# Cool Science

ausgeführt am Atominstitut



der Technische Universität Wien  
Fakultät für Physik

unter der Anleitung von  
**Univ.Prof. Dipl.-Ing. Dr.techn. Gorge Hammond**  
und

**Projektass. Dr.rer.nat Rodney MacKay MSc.**  
**Projektass. Dr.techn. Dr.techn. Dr.techn. Dipl.-Ing.**  
**Samantha Carter**

durch

**Daniel Jackson**

Matrikelnummer: 9-18-27-15-21-36

Stadionallee 2  
1020 Wien

Wien, am 05.05.2020

# Contents

<b>1 Beam Characterization</b>	<b>1</b>
<b>Todo list</b>	<b>3</b>
<b>References</b>	<b>4</b>

# 1 Beam Characterization

Chapter about beam characterization.

ignore from here

2020-09-27 set voltages

2020-09-30 first successful external run

2020-10-07 spot vs pressure

2020-10-22 current measurement aluminum foil

2020-11-05 forgot to turn off filament heating

2020-11-14 assemble chamber with copper rings

to here

## possible sections

current and voltage on filament

pressure (oxygen exposure) vs beam current

aluminum foil

What happens with the wobblestick ->

Faraday cup -> Frank

Beam current measurement -> Frank

Measurement Ablenkungsgeschwindigkeit (frequency) -> Alex

# Todo list

1

2

# References

- [1] Frank Philipse. *D14363GY123*. URL: <https://frank.pocnet.net/sheets/186/d/D14363GY123.pdf> (visited on 03/10/2020).
- [2] Wikipedia contributors. *Lissajous-Figur*. URL: <https://de.wikipedia.org/wiki/Lissajous-Figur> (visited on 05/05/2020).
- [3] Mini-Circuits. *TC8-1G2+*. URL: <https://www.minicircuits.com/pdfs/TC8-1G2+.pdf> (visited on 05/05/2020).
- [4] Mini-Circuits. *JSPHS-661+ Data Sheet*. URL: <https://www.minicircuits.com/pdfs/JSPHS-661+.pdf> (visited on 05/05/2020).
- [5] Hammond Manufacturing. *1455D601RD*. URL: <https://www.hammfg.com/files/parts/pdf/1455D801RD.pdf> (visited on 05/05/2020).