

Research Journal

July 4, 2017

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Chapter 1

Introduction

This is a template for a mathematics research journal. It uses the `subfiles` package to split the document up into chapters/topic areas, which allows you to work on each ‘project’ separately without needing to re-compile the entire document.

Folder Structure The folder structure is important. I keep each project in its own folder:

```
/
├── main
│   ├── journal.tex
│   ├── journal_style.sty
│   ├── journal_bib.bib
│   └── figures
│       └── fig1.pdf
├── project_1
│   ├── subfile_1.tex
│   ├── figures
│   └── project1fig1.pdf
└── project_2
    ├── subfile_2.tex
    ├── figures
    └── project2fig2.pdf
```

Subfile Document Structure Each project file has the following document class:

```
\documentclass[../main/journal.tex]{subfiles}
```


Chapter 2

Math

2.1 Probability Theory

- Citation: See Billingsley [1]
- A fancy letter f: \mathcal{F}
- Local label reference: in this section (section 2.1), we talk about probability theory.
- Global label reference: in another chapter, we talk about electrodynamics 3.1. Note that this label reference will only show up in the main document, not sub-files!

2.2 Figures

To include images, you can put them anywhere in the folder structure, but you have to give an absolute path relative to the base folder. For instance, in the folder `figures`, there is a picture called `riemann.png`. However, to include this image, I must use `../math/figures/riemann.png` i.e. I have to go up to the main folder then back down. This is so the main file will know where this image is.

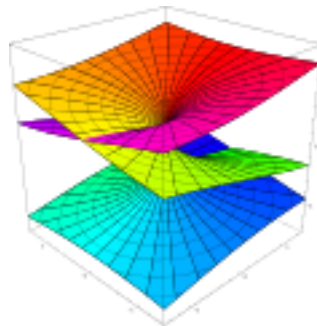


Figure 2.1: An illustration of a Riemann surface

Chapter 3

Physics

3.1 Electrodynamics

From Jackson [2]:

3.2 Figures

To include images, you can put them anywhere in the folder structure, but you have to give an absolute path relative to the base folder. For instance, in the folder **figures**, there is a picture called **LIGO.png**. However, to include this image, I must use `../physics/figures/LIGO.png` i.e. I have to go up to the main folder then back down. This is so the main file will know where this image is.

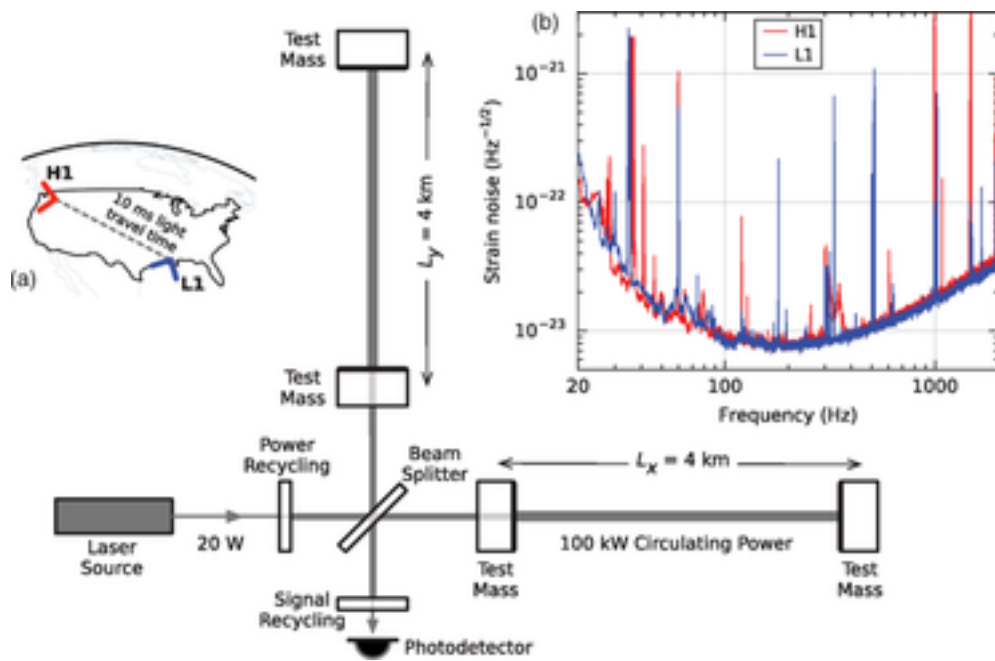


Figure 3.1: A figure about the LIGO gravity wave detector

Bibliography

- [1] Patrick Billingsley. *Probability and measure*. John Wiley & Sons, 2008.
- [2] John David Jackson. *Classical electrodynamics*. Wiley, 1999.