Geophysics Interferometer

Koseki Miyo

July 18, 2019

Contents

1 Geophysics Interferometer **5**

1.1 Overview . . . 5
1.2 Purpose . . . 5
1.2.1 Motivation in Geophysics . . . 5
1.2.2 Motivation in GW detectors . . . 5
1.3 Working Principle . . . 5
1.3.1 Response to the seismic strain . . . 5
1.3.2 Signal detection Scheme . . . 5
1.3.3 Noise . . . 5
1.4 Optics . . . 5
1.4.1 Mode Matching Optics . . . 5
1.4.2 Frequency Stabilized Laser . . . 5
1.4.3 Core Optics . . . 5
1.5 Data Aquisition System . . . 5
1.5.1 Stand Alone System . . . 5
1.5.2 Realtime System . . . 5
1.5.3 5
1.6 Summary of the Chapter . . . 5

Chapter 1

Geophysics Interferometer

1.1 Overview

1.2 Purpose

1.2.1 Motivation in Geophysics

1.2.2 Motivation in GW detectors

1.3 Working Principle

1.3.1 Response to the seismic strain

1.3.2 Signal detection Scheme

1.3.3 Noise

1.4 Optics

1.4.1 Mode Matching Optics

1.4.2 Frequency Stabilized Laser

1.4.3 Core Optics

1.5 Data Aquisition System

1.5.1 Stand Alone System

1.5.2 Realtime System

1.5.3 ...

1.6 Summary of the Chapter