

# Ph291E Lab 4 – Bessel & Telescope

Zeshui Song  
The Cooper Union

November 13, 2025

## 1 Purpose

Using Bessel's method to determine the focal lengths of two different converging lenses, we will construct a simple refracting telescope using these lenses and determine its magnification both experimentally and theoretically.

## 2 Data

### Part A: Pfund's Method

Table 1: Petri Dish Thickness

Thickness (mm)	Inst. Error (mm)	Random Error (mm)
2.180		
2.190		
2.185		
2.185		
2.195		
2.180	0.005	0.002
<b>Mean Thickness</b>		<b>2.186 mm</b>

**3 Calculations**

**4 Results**

**5 Conclusion**

**6 Answers to questions**

**Question 1**