

Assignment #5

Name: Cao Mingming ID: 2018311770

cmm18@mails.tsinghua.edu.cn

Tsinghua University — November 7, 2018

1 Problem 1

Derive Eq. 2.64 and Eq. 2.65 in the main textbook.

Solution 1

Assumed that the q parameter at the left beam waist is q_1 and the beam waist at the right side is q_2 , as is known in the figure 1. Therefore we could get,

$$q_1 = i \frac{n\pi\omega^2}{\lambda} \quad (1)$$

2 Problem 2

Solution

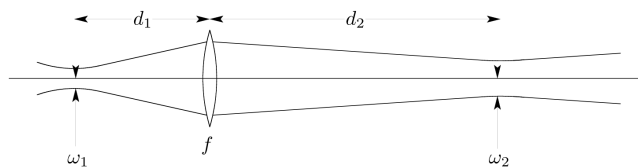


Figure 1: Mode matching