

4C! 12-2-13

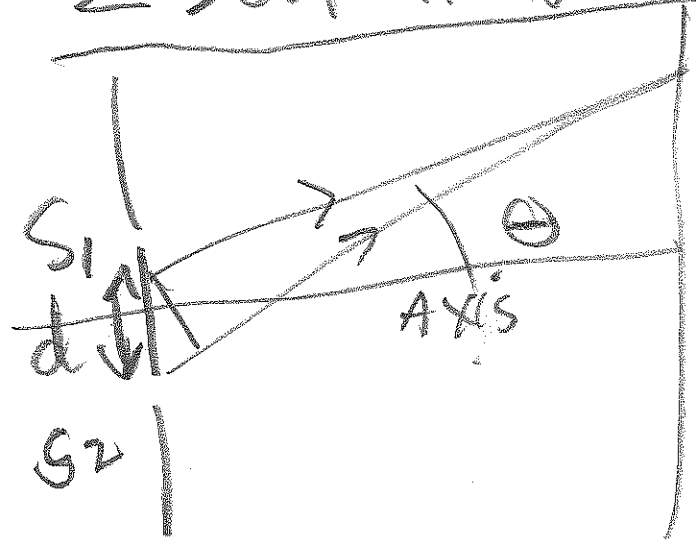
Test 3 \*11-22-13  
LINKS!

see this and other TEST 3 LINKS BELOW.

NOTE:

CH 35 ALSO includes

Σ slit interference



$$d \sin \theta = m \lambda; \text{CONST.}$$

$$d \sin \theta = (2m+1) \frac{\lambda}{2}; \text{deSTR.}$$

and other subject at below LINKS

\* 11-15-13 link

\* 10-19-13

\* 10-16-13 ; \* 10-21-13

\* 10-28-13 ; \* 11-01-13

test 3  
LINKS  
(LECTURE NOTES)

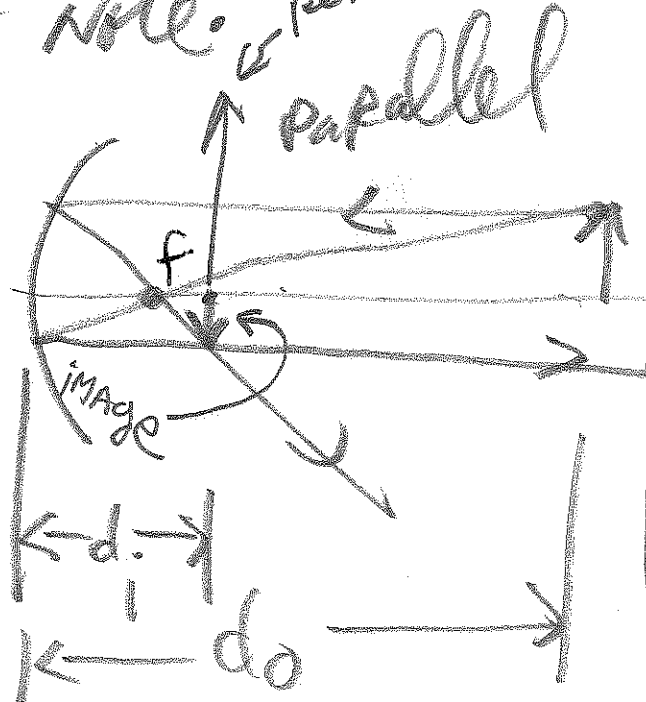
MORE TESTS LINKS  
\* 11-18-13

TESTS LINKS  
LECTURE DATE:  
10-14  
10-16  
10-21  
10-28  
11-1  
11-15  
11-22

CH34  
-CH36  
+CH18

SUMMARY  
OF ALL  
TEST 3  
LINKS

Lab Note: pencil 2 \*



pencil 1

\* Move head side-to-side looking at pencil 2 and image; check if "pinned" together

\*

Parallax:

when pencil 2

and image move

together, pencil 2

is at image

location.

# Data Sheet Concave Mirror: DETERMINATION OF f (CONCAVE MIRROR.)

|            |   |                   |
|------------|---|-------------------|
|            |   |                   |
|            |   |                   |
| do         |   |                   |
|            |   |                   |
|            |   |                   |
|            | $d_{obest}$   |                   |
|            | $\Delta d_{o\ inst}$                                | $0.05\ cm = LC/2$ |
|            | $(d_{o\ max} - d_{o\ min})/4$                       |                   |
|            | $\Delta d_o$ (larger of previous two.)              |                   |
| di         |   |                   |
|            |   |                   |
|            |   |                   |
|            |   |                   |
|            | $d_{ibest}$   |                   |
|            | $\Delta d_{i\ inst}$                                |                   |
|            | $(d_{i\ max} - d_{i\ min})/4$                       |                   |
|            | $\Delta d_i$ (larger of previous two.)              |                   |
| $f_{best}$ | $d_{obest} * d_{ibest} / (d_{obest} + d_{ibest}) =$ |                   |

Compare  $f_{\text{best}}$  and  $f_{\text{acc}}$  with the overall error, which gives the range, as discussed in class. Does the accepted value of  $f$  fall within the range centered at the best value? Hint: Check if  $f_{\text{min}} < f_{\text{acc}} < f_{\text{max}}$ , where  $f_{\text{min}}$  is the minimum possible using the values of the uncertainty and plugging into the formula by *subtracting the uncertainty* in the numerator and *adding the uncertainty* in the denominator; similar reverse logic should be used to get  $f_{\text{max}}$ : add in the numerator and subtract in the denominator.

Percent error for  $f$

Theoretical magnification  $m =$

ACTUAL MAGNIFICATION  $m =$

Percent error for magnification  $m$