

Name: _____

Date: _____

Partner: _____

Ultrasonic Interference and Diffraction

Put your Excel spreadsheet into my inbox (\\files\Inbox\Physics\Pogo\OpticsLab). Use .xls format. Title it "abc12Ultrasonic.xls", where "abc12" is your email address. Note that it must be in .xls format, NOT .xlsx format.

Submit this worksheet along with: 3 printed graphs (x versus $n\lambda$ from week 1, I versus x from week 1, I versus x from week 2), and your V_{pp} versus x data table from week 2.

<i>Week 1: Part 1 Speed of sound, Single source diffraction</i>		
	<i>Value</i>	<i>Uncertainty</i>
frequency (kHz)		
slope of position vs. # of wavelengths graph (cm)		
measured speed of sound (m/s)		
theoretical speed of sound (m/s)		
L (dist from source to bench, cm)		
a from fit (cm)		
Directly measured a (cm)		
<i>Week 2: Two source interference/diffraction</i>		
L (dist from sources to bench, cm)		
a from fit (cm)		
Directly measured a (cm)		
d from fit (cm)		
Directly measured d (cm)		

In space below, comment on your results. How does your measured speed of sound agree with the theoretical value? For the double "slit", how do your values of a and d compare with their directly measured values? Do you expect agreement here? Does your value of a agree with your value from the single source?