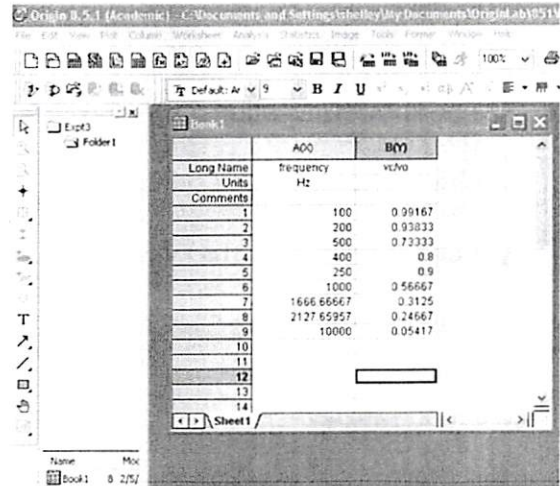


## HOW TO PLOT YOUR DATA USING ORIGIN AND ADD A THEORETICAL LINE

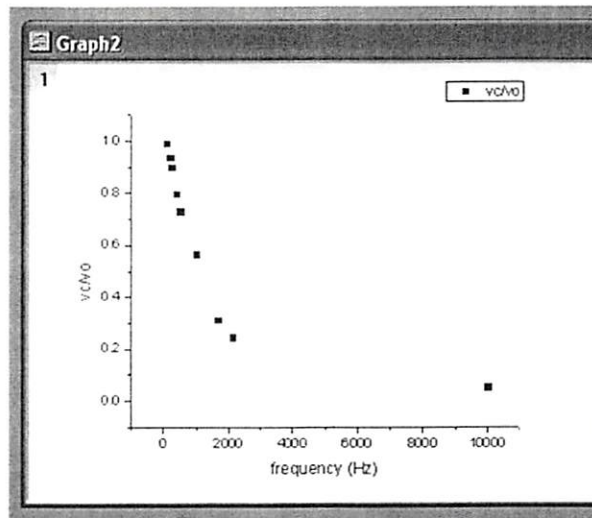
1. Start the program. It will open a worksheet titled "Book 1".

2. Type your data into columns A(x) and B(y), e.g.: →

3. Highlight the two columns and select "Plot" in the top toolbar. Under "Plot", select "Symbol" and "Scatter".



A graph of your data will appear, e.g.



4. To add a theoretical line, highlight the graph and select the "Graph" command which appears in the top toolbar where "Plot" used to be. Under "Graph", select "Add Function Graph". A dialog menu will appear, allowing you to type a desired function into the box, e.g.: After you type the function, origin will plot this on your graph, provided that "display curve" is checked in the dialog box.

**Note the following syntax, etc.**

Origin will draw a smooth curve from the function that you define in the box, applied to the horizontal axis which it takes to be the value " x "

Origin knows the value of " Pi "

Multiplication uses the symbol " \* "

Exponentiation uses the symbol " ^ "

The arctan function is " atan "

Count parentheses carefully!

Line    Function

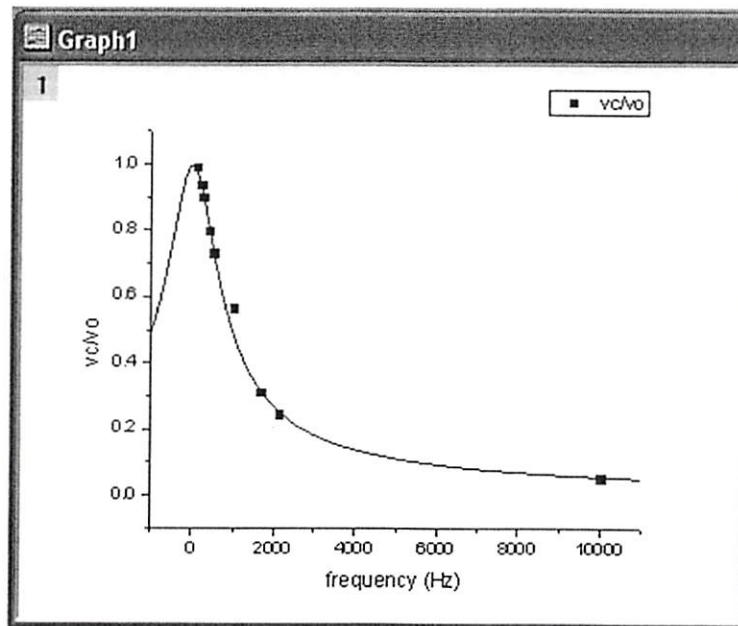
Density (Total Points) 100  Auto X Range

Display Curve

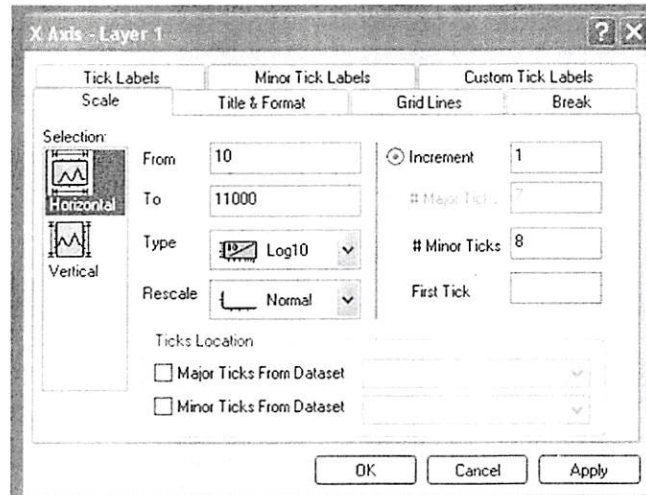
Add    Undo

F3(x) =  $1/\sqrt{([2*\pi*x*2.861*10^{(-4)})^2+1]}$

5. We now have a graph with a theory curve on it:



6. Adjusting the horizontal scale: position the mouse on the horizontal scale markers and right click. This will bring up a dialog box to change the horizontal scale. You can set the max and min values here, as well as selecting a log scale:



7. The resulting graph looks like this:

