

Inverting the Force values in Datastudio - Dr. Scott [sschneide@ltu.edu]

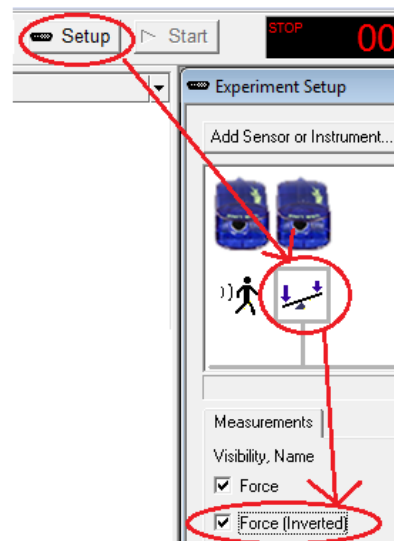
Datastudio (under Win7) seems to be registering forces pulling outward on the force probe as negative – and the inward pushing forces as positive (which is backwards compared to the way we would expect the force probe to read).

These directions will help you set the force probe to read an “inverted” set of data – and to plot it in place of the existing files. They are meant to show you how to retro-fit an existing “old” experiment file. Ideally, we will have newer files created to replace the “old” ones. Please follow the directions carefully!

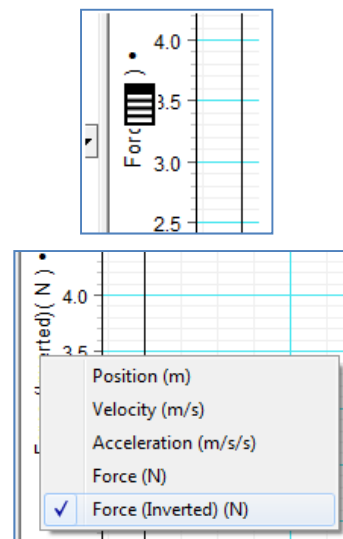
A) Plug in the force sensor and open Datastudio, and open the file you wish to modify.

B) Click on the SETUP button and click on the Force Sensor icon – then click the FORCE INVERTED choice down under measurements.

Also, we almost always want the force sensor to read around 40 Hz (the collision lab should be set to 4000 Hz if possible).



C) Now we need to set the Force graphs to read the new Force (inverted) value. Double-click on a graph in the Displays window to the lower left of the screen (one that displays force). Hover your mouse over the axis label that says Force (in this example it is the y axis that is displaying force). The mouse cursor will turn to that “list” shape shown. Left-click the mouse, and you should see a list of all the measurements – click on the Force (Inverted) – and your graph will now read positive if something pulls outward on the force probe, and negative if pushing inward.



Repeat the above steps (Part C) for any other graphs that need to display the Force (Inverted) data.

(Reminder – for most of the force readings we take, we want to zero the force probe before we take a reading – consult your lab professor or the manual.)