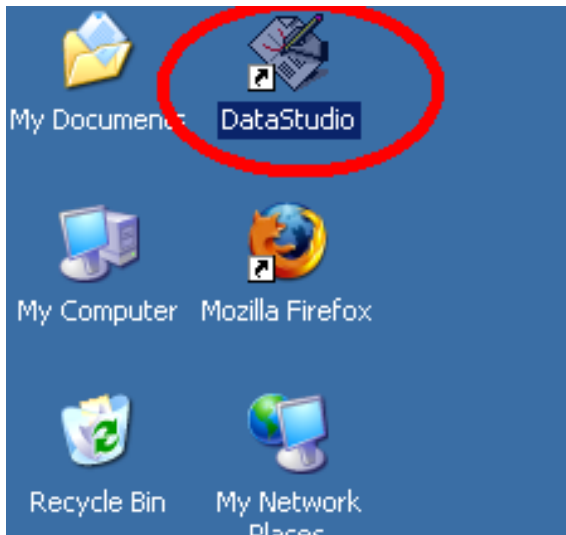


# DataStudio setup for rotation with constant acceleration

## Physics 23 Lab 05

Missouri University of Science and Technology

# DataStudio icon on desktop



# Create Experiment

The screenshot shows the DataStudio application window. The title bar reads "DataStudio" and the menu bar includes "File", "Edit", "Experiment", "Window", and "Help". Below the menu bar is a toolbar with buttons for "Summary", "Setup", "Start", a digital display showing "STOP 00:00.0", and "Calculate". On the left side, there are two panels: "Data" (empty) and "Displays" (empty). The main workspace is currently occupied by a "Welcome to DataStudio" dialog box. The dialog box has a blue title bar and a close button. It contains a cartoon atom icon and the text "How would you like to use DataStudio?". There are four icons with corresponding labels: "Open Activity" (books), "Create Experiment" (a book, a flask, and a lightbulb, circled in red), "Enter Data" (a clipboard with a table), and "Graph Equation" (a graph with the equation  $y = mx + b$ ). At the bottom of the dialog box, there is a checkbox labeled "Show each time this program starts." which is checked.

Summary   Setup   Start   STOP 00:00.0   Calculate

Data

Displays

Welcome to DataStudio

How would you like to use DataStudio?

Open Activity

Create Experiment

Enter Data

Graph Equation

Show each time this program starts.

# Left-click input 1

The screenshot shows the DataStudio software interface. At the top is a menu bar with 'File', 'Edit', 'Experiment', 'Window', and 'Help'. Below the menu bar is a toolbar with buttons for 'Summary', 'Setup', 'Start', a digital display showing 'STOP 00:00.0', and 'Calculate'. On the left is a 'Data' panel. The main area is titled 'Experiment Setup' and contains buttons for 'Add Sensor or Instrument...', 'Setup Timers...', and 'Calibrate Se...'. Below these buttons is an image of a ScienceWorkshop 750 interface board. A red circle highlights the first digital channel, and a yellow circle highlights the output jack. Below the image is the text: 'Click any channel to add a sensor.'

# Add Rotational Dynamics Apparatus > OK

The screenshot displays the 'Experiment Setup' window for a ScienceWorkshop 750 interface. At the top, there are four buttons: 'Add Sensor or Instrument...', 'Setup Timers...', 'Calibrate Sensors...', and 'Sampling Options...'. Below these buttons is an image of the ScienceWorkshop 750 hardware unit, which has three digital channels labeled A, B, and C. A dialog box titled 'Choose sensor or instrument...' is open, showing a list of available sensors. The 'Rotational Dynamics Apparatus' option is highlighted with a red circle. The list includes: Drop Counter, Flow Rate Sensor, Four-To-One Adapter, Free Fall Adapter, Geiger Counter, Laser Switch, Motion Sensor, Photogate, Photogate & Picket Fence, Photogate and Pendulum, Rotaru Motion Sensor, Rotational Dynamics Apparatus, Smart Pulley, and Time Of Flight Accessory. The 'OK' and 'Cancel' buttons are at the bottom of the dialog box.

Experiment Setup

Add Sensor or Instrument... Setup Timers... Calibrate Sensors... Sampling Options...

ScienceWorkshop 750

Click any channel to:

Choose sensor or instrument...

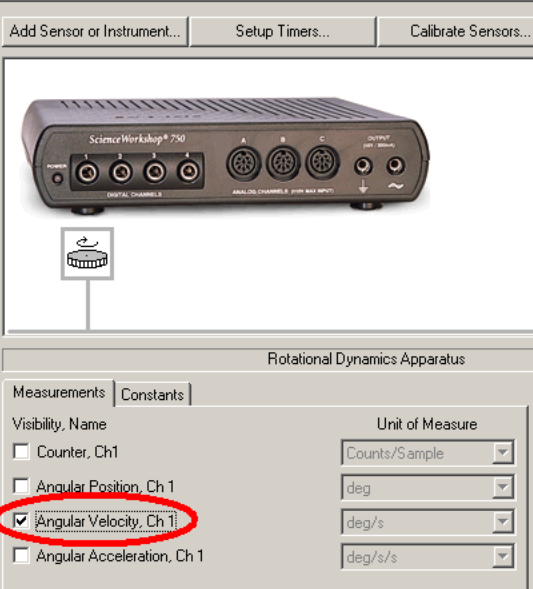
ScienceWorkshop Digital Sensors

- Drop Counter
- Flow Rate Sensor
- Four-To-One Adapter
- Free Fall Adapter
- Geiger Counter
- Laser Switch
- Motion Sensor
- Photogate
- Photogate & Picket Fence
- Photogate and Pendulum
- Rotaru Motion Sensor
- Rotational Dynamics Apparatus**
- Smart Pulley
- Time Of Flight Accessory

OK Cancel

# Check Angular Velocity only

Add Sensor or Instrument...    Setup Timers...    Calibrate Sensors...



ScienceWorkshop® 750

DIGITAL CHANNELS    ANALOG CHANNELS (200V MAX INPUT)    OUTPUT (50V MAX)

Rotational Dynamics Apparatus

Measurements    Constants

Visibility, Name	Unit of Measure
<input type="checkbox"/> Counter, Ch1	Counts/Sample
<input type="checkbox"/> Angular Position, Ch 1	deg
<input checked="" type="checkbox"/> Angular Velocity, Ch 1	deg/s
<input type="checkbox"/> Angular Acceleration, Ch 1	deg/s/s

# Add Graph

