**QSSPL Standard Operating Procedure:**

**Hardware instructions:**

* Turn lock-in amplifier on.
* Ensure all hardware is properly connected to FY2300, lock-in amplifier, laser diode controller. The code will push custom errors if connections not established.
* Set gain to second highest setting on Photodetector.

A group of electronic devices

Description automatically generatedA black device with a dial and buttons

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* Place sample into integrating sphere sample holder.

A person holding a piece of paper

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**Software instructions:**

**Type into the terminal/command line:**

ipython

from QSSPL import qsspl

cd /into/a/directory

c = qsspl.QSSPL()

c.take\_qsspl(sample\_name = “name\_your\_sample”)

**Optional arguments:**

# Method to take QSSPL measurements

def take\_qsspl(self, sample\_name = "sample", min\_current = 300, max\_current = 780, waveform = "square", rest = 0.1):

""" Method to take QSSPL measurements

Args:

sample\_name (str, optional): Name of sample. Defaults to "sample".

min\_current (int, optional): Minimum laser current (mA). Defaults to 300.

max\_current (int, optional): Maximum laser current (mA). Defaults to 780.

step (int, optional): Step between current settings (mA). Defaults to 20.

waveform (str, optional): Shape of waveform. Defaults to "square".

rest(float, optional): Time delay between measurements (s). Defaults to 0.1 s.

"""

**If connection issues:**

1. check for available addresses

import pyvisa

rm = pyvisa.ResourceManager()

rm.list\_resources() #prints a list of available GPIB addresses

2. connect to address of your choice

**Export data as needed- e.g. copy paste into Synology Drive.**

**Turn of Laser and TEC when finished measuring samples.**

A close up of a machine

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