- PTC
  - We need the dark frame data, don't know which one that is.
  - Code to load each data set and calculate the average intensity.
  - Code that loads a selection of data file
    - import os
    - def get_file_list(dir):
      file_list = []
      for file in os.listdir(dir):
      if file.endswith(".tiff"):
      file_name = dir + file
      file_list.append(file_name)
      return file_list
  - Load in the dark data (2048 x 2048 x 500)
    - average stack in to one frame in Z (2048 x 2048)
  - Load in a file
  - take the dark data away from each frame
  - select an area
    - fixed position
    - calculate are with least variance
  - Take area
    - calcluate the mean and std.
  - Store that some where
  - We do it for a number of frames
  - plot mean against Std
  -
  - plot mean against std^2 gradient = gain.
  - we can then convert out counts to electrons.
  - Calculate the read noise.
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  - FUNCTION Code that takes argument of a directory name and returns the tiff files in that folder.
  - PROGRAM Code the gives us the brightest and dimmest file.
    - load each file, calculate the mean, print filename and average.
  - PROGRAM Then calculate the dark frame and ave it as a numpy array.
  - PTC PROGRAM