Next week, you all will be giving **5-6 minute PowerPoint/Keynote presentation**s focusing on your measurements from the summer and their implications. Note, this presentation **dovetails** with the presentation from **two weeks ago** and should not duplicate a lot of the content from that talk. But please do provide a **one-slide introduction** as there will be one astronomer other than myself providing feedback and they won't have any of the context for your presentation.

What fit parameters we have, what compact Non-compact galaxies look like. Sersic profile for the single sersic profile galaxies. Make a scatter plot of Sersic profiles as a function of ionizing photon production efficiencies.

A histogram of the sizes for these objects and the median.

Given an overview of the parameters in a fit. Position, magnitude, effective, radius, sersic index, position angle, axis ratio, etc.

**Slide 1:**

Intro slide summarizing the slideshow from last week. The main ideas and why we’re doing it.

**Slide 2:**

Start with the overview of the parameters of the fit. Me showing a science image and a model image for one object, having written out the best fit parameters of the object and then I could go through the different parameters, what they mean, and how they affect the fit.

**Slide 3:**

How to calculate effective radius in physical units. Converting the effective radii from Galfit they measure the major axis (the elongated axis) to correct that to a circle you have to use the axis ratio (you could have an equation to show this). Then you take that and convert it to angular size, which is just using the arcseconds/pixel for the image you’re using. Then converting it to the physical size of an object.

Radius in pixels, radius in arc seconds arcseconds to a physical distance (that’s using the redshift of the object).

**Slide 4:** Present the effective radii. You made a figure with one object with the BPM. Instead of one you make the stamps smaller and you show all of the objects we have size measurements for and then overlay the effective radius on that in a text box or something. (Here’s the variety of radii for these objects) the only thing on that slide could be that figure. **← Only for the objects with Sersic profiles.**

A script could read in the header information could look for the units and do the formula to get the effective radii in a for loop. Python could make this easier. (With multiple Sersic components we’ll definitely use a script for that).

**Slide 5:** Show a histogram of all the effective radii measurements. It would only be about 10. We can update these figures once we have all the measurements done.

**Slide 6:** Actually show the effective radius v.s. Ionizing photon production efficiency **(in a scatterplot)**. In that Pandas data frame are all of the ionizing photon production efficiencies. Xi\_ion is the name in the Pandas data frame. ← You will have to read and write this stuff out.

import pandas as pd

pd.read\_pickle(‘filename')

pjades = pd.read\_pickle(‘filename’)

pjades.to\_csv(‘filename')

Looking at it in Python could prove beneficial if you want to try that out!

**Slide 7:** The exact same scatter plot but with a line fit to it. It’ll be really preliminary to see a correlation but this could be an example of what we’re going to do.

<https://python-graph-gallery.com/scatterplot-with-regression-fit-in-matplotlib/>

**Slide 8:** Potential implications: compact galaxies during reionization are efficiently producing ionizing photons or there’s no correlation (they’re contributing to reionization as much as any other galaxy, they still have higher escape fractions but aren’t quite as important as they would be).

Gone Saturday, On Monday (in plane).

If you want to talk about certain things messaging on Slack is probably easier. We should plan to meet Tuesday night for him, Tuesday morning for me.

If you’re having trouble plotting something I can send him a Slack message and he’ll find more time while he’s at the conference as opposed to Zooming. Let’s for sure talk on Tuesday.

If you’re making these figures, making scripts to generate figures say your measurements and amount of objects changes. Having a script to rerun measurements will save you a lot of time.

Rather than screenshotting DS9 you could use im.show() like for the figure I used a few weeks ago. He recommends trying to use Python as much as possible. If you need to regenerate anything you can do that again.

How the fit works, what the galaxies look like, what they’re sizes are, their preliminary sizes, etc will be good enough for this.

He has sizes for the CEERS object we can add those measurements on top of the ones we have and we could combine our data. For now we’ll just do what I’m measuring.