What is an abstract?

An executive summary of your project and its context within the field. Generally

one paragraph (there are almost always word limits).

It should (generally) include:

● Background

● Methods

● Results

● Take away message

Key Items to Include

1. Introduction—what is the topic?

2. Statement of purpose?

3. Summarize why have other studies not tackled similar research questions?

4. How has the research question been tackled?

5. What is the key impact of the research?



Reionization was an era in which the universe’s hydrogen went from neutral to ionized due to the production of ionizing light from early star-forming galaxies. Many things about reionization are not well understood, including its timeline and which galaxies contributed most to it. In this project, we are investigating the ionizing photon production efficiencies of high-redshift galaxies from reionization in relation to their effective radii. It has been demonstrated at low redshift that compact galaxies have higher photon escape fractions. We are now investigating if these small-radius galaxies also had higher ionizing photon production efficiencies to build a more complete understanding of their ionizing emissivities. Now thanks to the advent of the James Webb Space Telescope, we are able to observe galaxies at better spatial resolution and near-infrared wavelengths, allowing for more accurate galaxy radius and photon production efficiency measurements for galaxies at higher redshift. In this poster, we present sizes of ancient galaxies from redshifts 2<z<6 specifically from the JADES survey. We estimated the radii of these early galaxies **programmatically through custom Python scripts, which aim to** cut out galaxies from their mosaic and generate PSFs which are both prerequisites relevant to GALFIT. GALFIT is a software package that fits 2D synthetic light profiles to galaxies. GALFIT utilizes Sersic profile fits to better estimate the extent of galaxies past their surrounding noise floors, increasing the accuracy of our galaxy size estimates. Our research will help us better understand the history of reionization, including whether compact galaxies were the main drivers behind this process.