Quantifying the Inside-Out Formation of Disk Galaxies using Morphological Analysis

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Galaxies that we observe in our local neighborhood today have relatively low star formation rates and are already assembled into massive galaxies. However, when the Universe was at the peak of star formation, approximately 10 billion years ago, galaxies were rapidly evolving and transitioning from clumpy morphologies to the fairly regular disk and spheroid morphologies we observe today. This morphological transformation and the increase in galaxy sizes offer insights into the physical processes involved in the build-up of galaxies over cosmic time. In this talk, I will discuss how ultraviolet and visible light morphological measurements are used to investigate the theory of inside-out formation of galaxy disks. I will also discuss how constructing color maps and radial color profiles of galaxies allows us to quantify how dust could impact the measured morphologies of the galaxies.

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