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The evolution of massive galaxies over cosmic time BHAVIN JOSHI, Arizona State University — Massive elliptical galaxies are characterized by older stellar populations, redder colors, and relatively steep light profiles. Although a lot of progress has been made in understanding their properties we still have to understand how these galaxies were formed and how they have grown over the last 12 billion years or so. The spectra for these massive galaxies tend to show broad absorption lines and also typically show a sharp discontinuity in the flux at wavelengths shorter than 4000 A - a feature called the 4000 A break. This feature is caused by multiple absorption lines largely from ionized metals that fall within the wavelength range of 3600-4200 A. It provides information about the star formation history and the stellar content of a galaxy. I will present work that studies massive galaxies using data from the Faint Infrared Grism Survey (FIGS) as well as data from the Probing Reionization And Evolution Survey (PEARS) that are large Hubble Space Telescope (HST) programs with 160 orbits and 200 orbits respectively. I will introduce the methods used to select galaxies for analyzing them through the strength of their 4000 A break and I will present and discuss the results that have been obtained thus far.

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