

Abstract Submitted
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“Flickering” found in Sagittarius B2 Star-forming region¹ ASHLEY MONSRUD, CHRIS DEPREE², JASMYN HEATHE, Agnes Scott College — Ultracompact HII regions are dense areas of ionized gas within the galaxy in which massive star formation takes place. Based on simulation models, it is thought that these regions vary in brightness, commonly known as “flickering,” as they evolve. By using radio interferometry and radio imaging with the Very Large Array, we compared two images taken 23 years apart, the first image was taken in 1989 and the second in 2012, of the star-forming region Sagittarius B2, in order to detect any flux variations in the sources. By using the continuum and recombination line data our team of researchers has the ability to identify these flux variations in the ultracompact and hypercompact sources. In order to have a significant flux variance, we calculated that the integrated flux has to be ten percent or greater than the flux calculated in the 1989 data. After all of the calculations were made, sources F2 and F3 are the two sources in the Sagittarius B2 region that met the qualifications in order to have a significant change in both peak flux density and integrated flux. The total changes in peak flux density are 1.032 and .876 and differences in integrated flux density are .1483 and -0.105 for F2 and F3 respectively. The F2 and F3 sources changed by 77% and 10% in integrated flux difference respectively. This concludes that two out of our twenty-five HC regions are detected to have what we consider to be a significant change.

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