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A Multi-Wavelength Study of Bubbles to Determine their Impact on the Interstellar Medium[1] OSASE OMORUYI, Yale University — Based on our knowledge of the interstellar medium (ISM), we expect the rate of formation of stars to be much faster than what has actually been observed. It is known the turbulence observed in the ISM is slowing the star formation process. However, the turbulence may be driven by shell-like structures (bubbles) powered by young stars found all over the Galaxy. By conducting a multi-wavelength study of these bubbles, we aim to study their impact (i.e., energy and momentum injection) on the ISM. To carry out the study, we utilized the catalog of bubbles from the Spitzer Milky Way Project to identify the largest bubbles within range of view of the I-GALFA and GRS surveys. We created 3-color images of the largest bubbles and identified the shells in HI and 13-CO, revealing each bubble's atomic and molecular components. We used these components to obtain each bubble's radial velocity and kinematical distance, so that we may estimate the impact its rate of expansion has on the ISM.

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Osase Omoruyi
Yale Univ

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