

Super Star Clusters: The Engines of Galactic Outflows

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Large-scale starburst-driven galactic outflows are launched on small scales from individual star clusters. The exact launching mechanism is still debated, though. Recent simulations suggest that radiation pressure from the most massive SSCs is able to launch cold winds from the galactic disk before the hot supernovae-driven wind begins. However, there are very few observations on the cluster scale exploring how SSCs feed back into the host galaxy and whether they can be the source of a galaxy-wide outflow. We have started a program to observe super star clusters (SSCs) in nearby galaxies using Keck OSIRIS to test theories of starburst-driven galactic outflows on the scale of individual clusters. Using adaptive optics-corrected integral field spectroscopy, we map the kinematics, density, and energetics of the gas as a function of radius, cluster age, and environment to investigate the theories of cluster feedback. We will present preliminary results on several SSCs within NGC 4038/9 (the Antennae).

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