



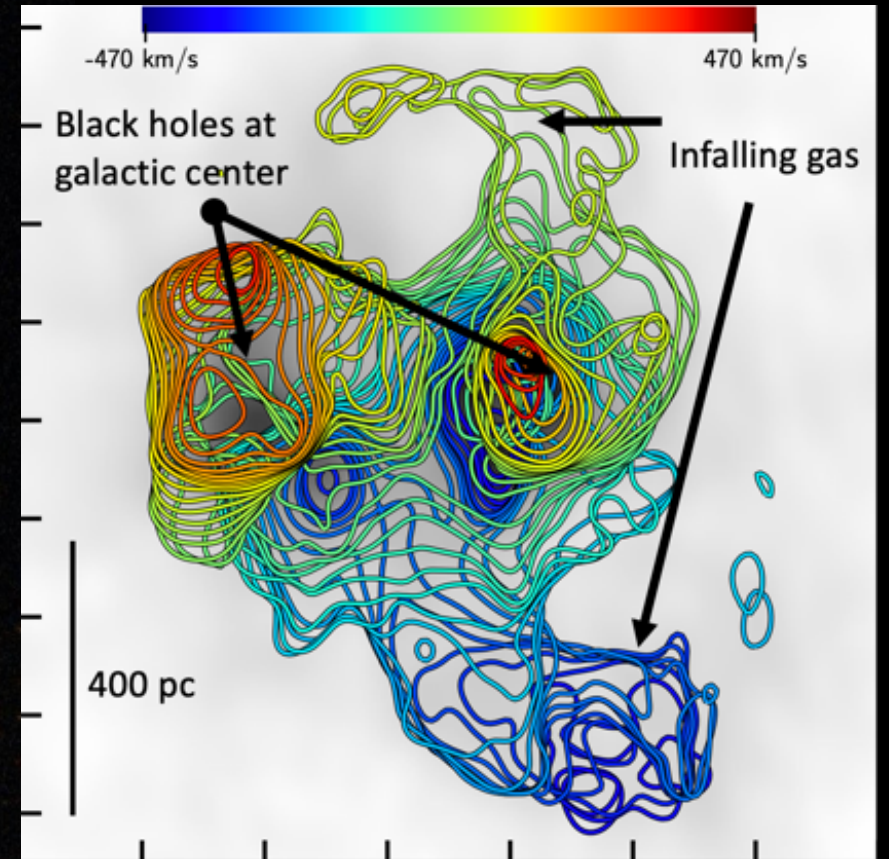
A Snapshot of Extreme Conditions in Colliding Galaxies



The system of merging galaxies, Arp 220, is a classic laboratory to study the physical conditions and processes in galaxy centers when two galaxies collide. Substantial disks of excited gas surround both supermassive black holes in the center of Arp 220. Gas is both falling toward and flowing away from these black holes.

Using observations from the Atacama Long Millimeter Array, we were able to deduce gas properties and dynamics during a brief but important phase in the evolution of a galaxy.

Most massive galaxies likely went through one or more merging events like what we see in Arp 220. By developing our understanding of Arp 220's physical processes, we learn more about the origin of our own Milky Way – its stars, structure, and central black hole.



ALMA observations of Arp 220 in carbon monoxide

Arp 220 from Hubble

J. Wheeler, J. Glenn (665), N. Rangwala (Ames), A. Fyhrie, "Arp 220: New Observational Insights into the Structure and Kinematics of the Nuclear Molecular Disks and Surrounding Gas," *The Astrophysical Journal*, published 2020 June 11