Image: Hubble views a galaxy with an active center

December 31 2019

Credit: ESA/Hubble & NASA, D. Rosario et al.

This swirling mass of celestial gas, dust and stars is a moderately luminous spiral galaxy named ESO 021-G004, located just under 130 million light-years away.

This galaxy has something known as an active galactic nucleus. While this phrase sounds complex, this simply means that astronomers measure a lot of radiation at all wavelengths coming from the center of the galaxy. This radiation is generated by material falling inward into the very central region of ESO 021-G004, and meeting the behemoth lurking there—a supermassive black hole. As material falls toward this black hole it is dragged into orbit as part of an accretion disk; it becomes superheated as it swirls around and around, emitting characteristic high-energy radiation until it is eventually devoured.

The data comprising this image were gathered by the Wide Field Camera 3 aboard the NASA/ESA Hubble Space Telescope.

Provided by NASA's Goddard Space Flight Center

Citation: Image: Hubble views a galaxy with an active center (2019, December 31) retrieved 17 August 2024 from https://phys.org/news/2019-12-image-hubble-views-galaxy-center.html