

Research using the James Webb Telescope has shown that some galaxies stopped forming stars much earlier than previously thought. An international group of astronomers from the University of Geneva has identified the most distant “dead” galaxy known so far—it ceased star formation just 700 million years after the Big Bang.

Previously, scientists believed that young, star-forming galaxies dominated the early Universe. However, new data from the Webb Telescope challenges this theory. Under the RUBIES program, researchers studied hundreds of galaxies and discovered a unique object with a redshift of 7.29. This indicates that it had already gone through its active growth phase and stopped forming stars surprisingly early.

A typical galaxy in the early Universe accumulates gas from its surroundings, converting it into stars to grow. But over time, this process halts due to unknown factors—astronomers term this the “quenching” of star formation. In the modern Universe, about half of all galaxies have undergone this stage and no longer form new stars.

The discovery of RUBIES-UDS-QG-z7 casts doubt on current theories of galaxy formation. Modeling indicates that this object accumulated a mass equivalent to 10 billion suns before halting star formation, which occurred much faster than current models predict.