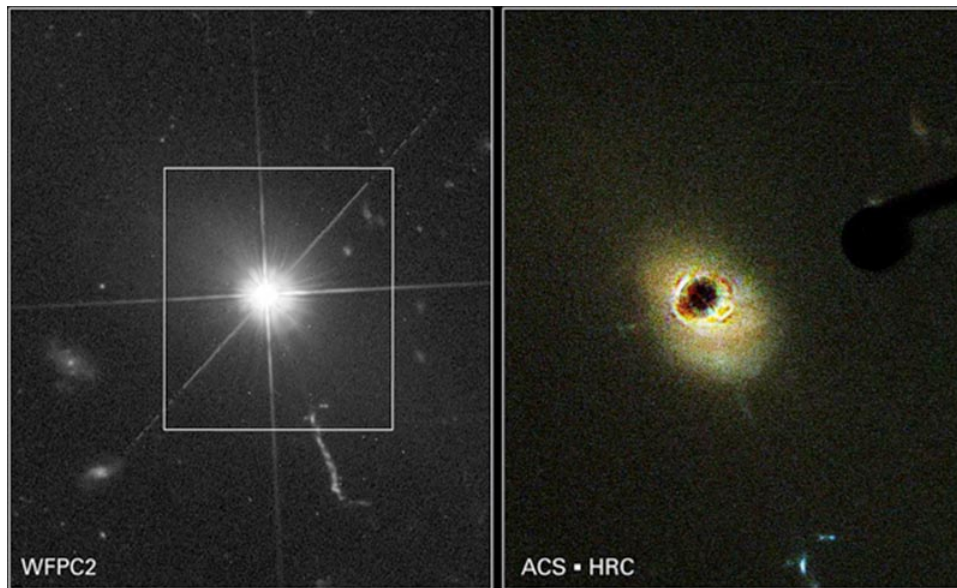


13.12: Quasar-stellar Objects

Quasars, or **Quasi-stellar Objects**, look like stars, yet are the most luminous, powerful, and energetic objects known in the Universe. Quasars, or QSOs, are extreme radio sources, emitting the energy of an entire galaxy or more — 1,000 times that of the Milky Way. The fuel source for QSOs appear to be very energy efficient, super-massive black holes. The left image shows the brilliant Quasar; the spikes of light also demonstrate the star-like appearance of the Quasar. This image was taken with the Hubble's Wide Field Planetary Camera, WFPC. The right image shows the bright Quasar blocked (appears black), providing a view of the Quasar's host galaxy. This image was taken with the Hubble Advanced Camera for Surveys, ACS.

Most QSOs are found at the edge of the observable Universe; representing the Universe in the distant past. They exhibit the highest-observable red shifts and the most distant of objects currently observable. A recently discovered (2010) Quasar was seen at 13.3 billion light-years distant. This is considered to be near the limit of the observable Universe. Quasars were most likely formed through early galactic collisions. These collisions formed the super-massive black holes at the centers of Quasars.



Quasar 3C 273Public Domain | Image courtesy of NASA.

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