

Get to know your place in universe at Galaxy Forum

Cannibalistic galaxy bends light, revealing a monstrous appetite

The most massive galaxy known in the local universe was revealed recently in images taken by Gemini Observatory.

Study also reaffirms that "galactic cannibalism" is one reason that this galaxy is so huge, tipping the scales at up to 30 trillion times the mass of our Sun.

The supermassive galaxy is located at the core of the galaxy cluster Abell 3827, which lies some 1.4 billion light-years away.

This galaxy and hundreds of its smaller cluster companions are visible in a dramatic new image released by the Gemini Observatory.

The image shows how the galaxy bends light, creating a "gravitational lens" that allows astronomers to measure its extreme mass.

Although this bright galaxy (known as ESO 146-IG 005) dominates the core of Abell 3827, "the magnitude of its appetite has not been fully appreciated," said Gemini astronomer Rodrigo Carrasco, who is a member of the team that used the 8-meter Gemini South telescope in Chile, a twin to the Gemini North scope atop Mauna Kea.

The Gemini observations revealed, for the first time, the effects of gravitational lensing near the core of

ESO 146-IG 005.

"The gravitational lens we discovered allowed us to estimate for the first time the mass of this monster galaxy very accurately.

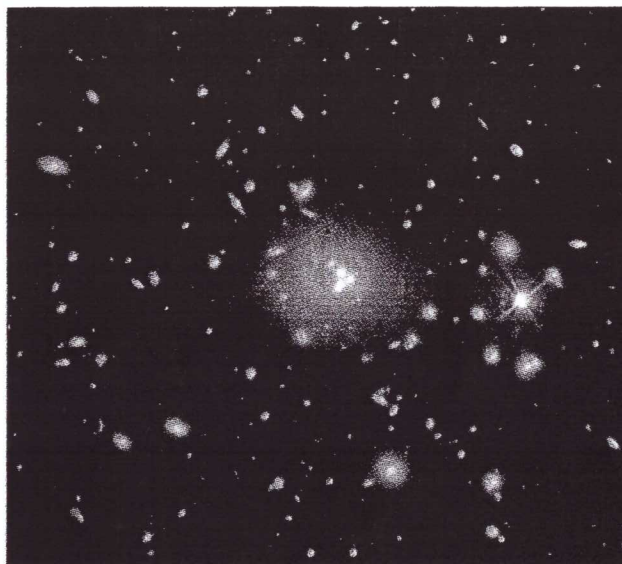
The inferred mass is a factor of 10 greater than previous estimates derived from X-ray observations," said Carrasco.

"Assuming our model is correct, this is by far the most massive galaxy known in our local universe."

The exceptional galaxy was not simply born massive; it has grown by consuming its companions in perhaps the most extreme example of ongoing "galaxy cannibalism" known.

"This unabashed cannibal is something of a messy eater, with the partially digested remains of at least four smaller galaxies still visible near its center," said team member Michael West, the astronomer at the European Southern Observatory who first observed this system more than a decade ago and says that he was immediately struck by the complex morphology of this giant cannibal galaxy.

"Eventually this galaxy will grow even bigger judging by the number of nearby galaxies already within its gravitational grasp," said West.



Gemini Observatory

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'Imiloa Astronomy Center to host free stellar session Sunday

'Imiloa Astronomy Center invites the public to the next free Galaxy Forum 2010 — "21st Century Education: Get to Know Our Place in the Universe" — from 10:30 a.m. to 12:30 p.m. Sunday. It's billed as an exploratory forum to promote galaxy education and stellar academics.

Speaker Kumiko Usuda, outreach education scientist for the Subaru Telescope, will focus on "Teaching Galaxy Education in Hawaii's Classrooms."

Usuda is a dynamic and accomplished galaxy educator with much experience

in Hawaii's classrooms, where she enjoys teaching students how to build their own scale models of the Milky Way. She will discuss how to integrate galaxy awareness in preschool, elementary, secondary and college classroom curricula. The session will include a panel discussion with local educators on advancing and enhancing general science education in Hawaii.

Hosts for the galaxy series are the International Lunar Observatory Association and Galaxy Garden. Visit www.iloa.org and www.galaxygarden.net.

