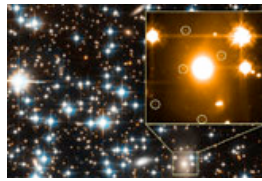


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Faraway Galaxy Plays Peekaboo
 By [Ker Than](#)
 Staff Writer
 posted: 10 January 2007
 1:50 p.m. ET

SEATTLE - The most distant [star cluster](#) astronomers have ever observed has been found behind one of the nearest clusters to [Earth](#).

While using the [Hubble Space Telescope](#) to study NGC 6397, a star cluster located only 8,500 light-years away, researchers spotted a background elliptical galaxy whose light peeked through the nearby cluster [\[image\]](#).

The distant galaxy contains several hundred globular star clusters, each probably containing hundreds of thousands of stars. The newfound [galaxy](#) does not have a name yet.

"Often in these deep images, one finds many distant galaxies, most of which will never have names," said study team member Jason Kalirai, a postdoctoral fellow at the University of California, Santa Cruz.

Kalirai and his colleague, Harvey Richer of the University of British Columbia in Canada, followed up on the Hubble images by analyzing the light signature of the distant clusters using the Gemini South Telescope in Chile.

By measuring how much light from the distant galaxy has been stretched during its journey across the universe, a phenomenon called "[redshift](#)," the researchers determined that it was located about a billion light-years away, making the star clusters in the galaxy some of the most distant ever studied.

"The largest substantial population--say more than 100--of star clusters in any other galaxy is located about 10 times closer than this object," Kalirai told [SPACE.com](#).

The star clusters are so far away, in fact, that they are about 10 million times dimmer than a single giant star in NGC 6397. The findings were detailed here today at the 209th meeting of the American Astronomical Society.

Clues about our own galaxy

According to some theories, globular star clusters are thought to provide the bulk needed to form elliptical galaxies. The newly spied star clusters will provide scientists with a way to test those theories.

"The clusters can shed light on the evolution and formation of galaxies," Kalirai said. For example, astronomers can infer the ages and metal contents of the stars in the clusters based on their colors. Combining this information with the clusters' locations can tell astronomers when certain parts of the galaxy formed.

"For spiral galaxies like the [Milky Way](#), the globular clusters directly tell us when the [halo](#) formed and, since this is the first component to form, when the galaxy itself formed," Kalirai said in an e-mail interview.

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This Hubble Space Telescope view reveals a small field within the globular star cluster NGC 6397 in the Milky Way Galaxy. Inset: A close-up of a distant, as-yet-unnamed, galaxy in the background sporting its own star

The distant galaxy could also provide a baseline for studying the evolution of [clusters](#) in our own Milky Way.

"This galaxy is far enough at a distance of 1 billion light-years that the light from these clusters has taken a billion years to reach us," Kalirai explained. "So, if all of these systems are old, then we are essentially probing younger cousins of our own globular population."

Editor's Note: All week, [SPACE.com](#) is providing complete coverage of the 209th meeting of the American Astronomical Society.

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...clusters. Credit: NASA/ESA/H. Richer/J. Kalirai. Click to enlarge.

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