

Astronomer Triggers Public's Online Search for Overlapping Galaxies

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Armchair astronomers using the galaxyzoo.org Web site have identified more than 500 overlapping galaxies in the local Universe when astronomers had previously only known of 20 such systems.

“This is the best Christmas present our users could hope for!” said Dr. Chris Lintott of Oxford University, a member of the galaxyzoo.org team. “Overlapping galaxies are useful because they enable us to study the dust in each system. Dust grains play a crucial role in the evolution of galaxies and how we see them - the presence of such dust is critical for star formation.”

Visitors to www.galaxyzoo.org get to see stunning images of galaxies. By classifying some of these images, visitors are helping astronomers to understand the structure of the universe. The new digital images were taken using the robotic Sloan Digital Sky Survey telescope in New Mexico.

Each of the 500+ overlapping galaxies was discovered by a member of the public signed up to the galaxyzoo.org forum where armchair astronomers can compare notes on the images of galaxies they have seen and classified using the website. The search for overlapping galaxies was led by Dr. William Keel, professor of astronomy at The University of Alabama. Keel wrote on the forum asking people to look out for suitable systems.

“The thousands of GalaxyZoo users have now found almost 700 such

pairs, going much deeper into space than our earlier searches,” Keel said. “With so many to select from, we can now examine how the dust content of galaxies changes with the galaxy's type and brightness. This work should lead to comparison with incoming Hubble data on galaxies in the early Universe, so we can trace the history of cosmic dust with a single technique. This matters because so much starbirth is dust-shrouded, making it crucial to understand how to compensate for this in our calculations.”

Astronomers have been awarded five night's use of the WIYN telescope on Kitt Peak, Arizona, to take a closer look at the overlapping galaxies identified by the Galaxy Zoo volunteers. The WIYN telescope is one of the largest in the Northern hemisphere and one of the most advanced in the world. This work will begin on April 25.

“We are expecting to get some spectacular images from our Arizona nights but, with the first set of science papers on Galaxy Zoo coming out very soon, we still need more volunteers to visit galaxyzoo.org,” said Lintott. “Even if you've visited the site before, please come back and classify some more galaxies in between mouthfuls of turkey and Christmas pudding as we need your help to confirm our results, results which could have a profound impact on our models of the universe.”

The Galaxy Zoo team includes scientists from the University of Oxford, the University of Portsmouth, Johns Hopkins University, and Fingerprint Digital Media of Belfast. Galaxyzoo.org has more than 110,000 users who have viewed more than 30 million images between them. The work on overlapping galaxies has involved the Galaxy Zoo team and astronomers from UA and the Space Telescope Science Institute in Baltimore.

A spectacular Hubble image of an overlapping galaxy, NGC3314, can be viewed at tinyurl.com/2poab5 .

Source: University of Alabama

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