Astronomers discover largest known structure in the universe

Reuters

(Reuters) - Astronomers have discovered the largest known structure in the universe - a group of quasars so large it would take 4 billion years to cross it while traveling at speed of light.

The immense scale also challenges Albert Einstein's Cosmological Principle, the assumption that the universe looks the same from every point of view, researchers said.

The findings by academics from Britain's University of Central Lancashire were published in the journal Monthly Notices of the Royal Astronomical Society and reported on the society's website on Friday.

Quasars are believed to be the brightest objects in the universe, with light emanating from the nuclei of galaxies from the early days of the universe and visible billions of light-years away.

"Since 1982 it has been known that quasars tend to group together in clumps or 'structures' of surprisingly large sizes, forming large quasar groups or LQGs," the society said.

This newly discovered large quasar group has a dimension of 500 megaparsecs, each megaparsec measuring 3.3 million light-years.

Because the LQG is elongated, its longest dimension is 1,200 megaparsecs, or 4 billion light-years, the society said.

That size is 1,600 times larger than the distance from Earth's Milky Way to the nearest galaxy, the Andromeda.

"While it is difficult to fathom the scale of this LQG, we can say quite definitely it is the largest structure ever seen in the entire universe," Roger Clowes, leader of the research team, said in a statement. "This is hugely exciting - not least because it runs counter to our current understanding of the scale of the universe."

Clowes said the team would continue to investigate the phenomenon with particular interest in the challenge to the Cosmological Principle, which has been widely accepted since Einstein, whose work still forms the basis for much of modern cosmology.

(Reporting by Daniel Trotta; Editing by Gary Hill)

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