

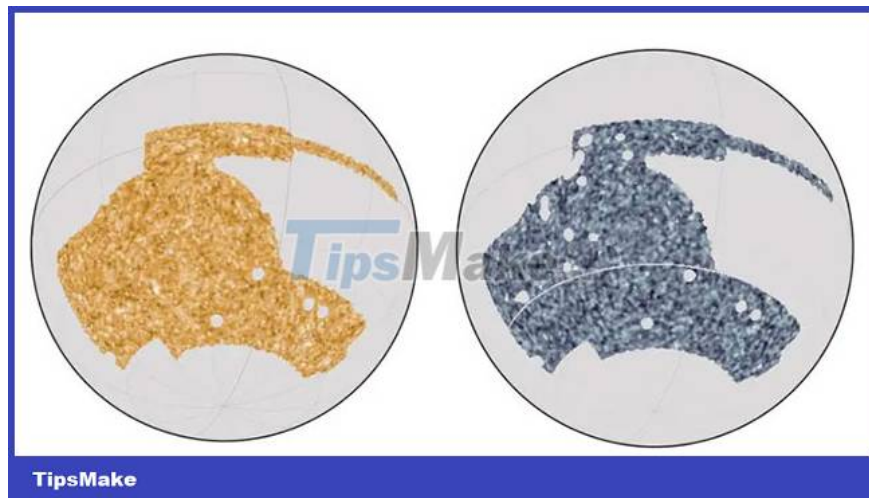
# Astronomers create the most accurate map of all matter in the universe

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Of the tens of thousands of conundrums facing astronomers today, the biggest unknown is probably about the matter that makes up most of the universe. You may not know it, but all the atoms, stars, planets, plants, rocks, humans, animals make up less than 5% of the known matter of the universe. The remaining about 70% is dark energy and 25% is dark matter.

But because dark matter - as the name suggests - does not interact with light, it is extremely difficult to study. Scientists must deduce the existence and location of dark matter from looking at how it interacts with the normal matter around them.

A series of in-depth studies conducted recently are assisting scientists in their quest to solve this conundrum. One of them is creating the most accurate map to date of how both ordinary matter and dark matter propagate throughout the universe. A huge amount of data has been collected from two different telescopes: the Dark Energy Survey and the South Pole Telescope to create the most accurate map. maybe.



For both data sets, the researchers used gravitational lensing — in which a massive object such as a star, galaxy, or galaxy cluster warps space, time, and activity. acts like a magnifying glass — to detect both normal and dark matter.

The results yielded a number of surprises, such as the fact that matter would normally be less 'clumped' than currently assumed based on current analytical models of how the universe formed. It shows that the problem is spread more evenly than expected. If other surveys find similar results, this could indicate that there is still something missing that current simulation theories of how the universe formed in the period immediately after the Big Bang have not been addressed. arrive.

All in all, at the present time, even though we know that both dark matter and dark energy exist, we still don't have any really remarkable clues about them. The appearance of such material maps will partly help scientists in this difficult task.

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