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Artistic impression of the Milky Way
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[The Milky Way Was Weighed Again](#)

The galaxy has a mass of about 1 trillion times that of the Sun

Our galaxy contains about 1 trillion solar masses, says a recent estimation regarding the weight of the Milky Way. All previous estimates showed that the galaxy has a mass ranging between 750 billion to over 2 trillion times that of our Sun, the latter being slightly favored and probably closest to the true weight. However, a team of astronomers using a new method to calculate the mass of the Milky Way showed that in fact the galaxy is just under 1 trillion times the mass of the Sun. A galaxy contains star systems, interstellar gas and dust and probably some amounts of dark matter, while the new estimate is only targeting a large population of stars located in the galactic halo, a spherical population of stars around the main galactic disk of matter. By measuring the speeds stars move at in relation to the main galactic disk, astronomers can calculate the gravitational force required to maintain those stars in orbit and therefore the weight of the whole galaxy. "The galaxy is slimmer than we thought. That means it has less dark matter than previously believed, but also that it was more efficient in converting its original supply of hydrogen and helium into stars", said the leader of the study, Xiangxiang Xue from the National Astronomical Observatories, China. The data used in the estimate was supplied by the Sloan Digital Sky Survey and may present significant implications for the further study of the galaxy we live in. "The total mass of the galaxy is hard to measure because we're stuck in the middle of it. But it is the single most fundamental number we have to know if we want to understand how the Milky Way formed or compare it to distant galaxies that we see from the outside", says Timothy Beers from the Michigan State University. While the new estimate was based on the study of about 2,400 stellar objects, all the previous ones used data related to less than 500 objects, meaning that the new estimate is statistically more accurate than all others, says Hans-Walter Rix from the Max Planck Institute for Astronomy, also part of the research team.