

# Study may give new respect to our Milky Way neighborhood

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This July 23, 2014 file photo shows the Milky Way galaxy on a moonless night from a cattle pasture in the Sand Hills of Nebraska. Our solar system lies at the edge of a structure called the Local Arm or the Orion Spur, and according to a paper released Wednesday, Sept. 28, 2016, researchers calculated that it stretches more than 20,000 light-years long, maybe about four times what scientists had thought before. (Travis Heying/The Wichita Eagle via AP)

Our corner of the Milky Way galaxy may be a bigger deal than scientists thought.

The galaxy is shaped like a disk, with four major arms of stars, dust and gas spiraling out from the center. Our solar system lies at the edge of what's called the Local Arm, which resembles a separate piece of an arm.

Historically, the Local Arm "didn't get much respect.... People thought it was just a tiny little thing," says Mark Reid of the Harvard-Smithsonian Center for Astrophysics in Cambridge, Massachusetts. But a new paper he co-authored concludes it is bigger than scientists thought.

Researchers calculated that it stretches more than 20,000 light-years long, maybe about four times what scientists had thought before, he said. That's still a lot shorter than the major arms.

The work was done by analyzing radio-wave emissions with the Very Long Baseline Array, a series of Earth-based dishes. Results were released Wednesday by the journal *Science Advances*.

The study, which also investigates other aspects of the Local Arm, "provides important contributions to the better understanding of our galaxy," said Denilso Camargo of Federal University of Rio Grande do Sul in Porto Alegre, Brazil. He didn't participate in the new work.

**More information:** The local spiral structure of the Milky Way, *Science Advances* 28 Sep 2016: Vol. 2, no. 9, e1600878 [DOI: 10.1126/sciadv.1600878](https://doi.org/10.1126/sciadv.1600878) , [advances.sciencemag.org/content/2/9/e1600878](https://advances.sciencemag.org/content/2/9/e1600878)

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