

# NASA's Fermi Mission Nets 300 Gamma-Ray Pulsars ... and Counting



A new catalog produced by a French-led international team of astronomers shows that NASA's Goddard-led Fermi Gamma-ray Space Telescope has discovered 294 gamma-ray-emitting pulsars, while another 34 suspects await confirmation. This is 27 times the number known before the mission launched in 2008.

Pulsars are a type of neutron star, the city-sized leftover of a massive sun that has exploded as a supernova. Neutron stars, containing more mass than our Sun in a ball less than 17 miles wide, represent the densest matter astronomers can study directly. They possess strong magnetic fields, produce streams of energetic particles, and spin quickly – 716 times a second for the fastest known.

The new catalog represents the work of 170 scientists across the globe. A dozen radio telescopes carry out regular monitoring of thousands of pulsars, and radio astronomers search for new pulsars within gamma-ray sources discovered by Fermi. Other researchers have teased out gamma-ray pulsars that have no radio counterparts through millions of hours of computer calculation, a process called a blind search.



A new visualization shows 294 gamma-ray pulsars, first plotted on an image of the entire starry sky as seen from Earth and then transitioning to a view from above our galaxy. The symbols show different types of pulsars.

Feature: <https://science.nasa.gov/universe/stars/neutron-stars/pulsars/nasas-fermi-mission-nets-300-gamma-ray-pulsars-and-counting/>

Paper: <https://iopscience.iop.org/article/10.3847/1538-4357/acee67>