



## NASA Named New Constellations

NASA has named 21 set of new Gamma Ray Constellations.

- NASA has named them after fictional characters like Doctor who, Hulk, Colosseum, Schrödinger's cat, Eiffel Tower, and Godzilla.
- The constellations were constructed with sources visible through its Fermi-Gamma Ray Space Telescope.
- These unofficial constellations were developed to celebrate the completion of 10 years of operations of the Fermi Gamma-ray Space Telescope.

## Fermi Gamma-Ray Space Telescope

- The Fermi Gamma-ray Space Telescope, formerly called the Gamma-ray Large Area Space Telescope (GLAST), is a space observatory being used to perform gamma-ray astronomy observations from low Earth orbit.
- Fermi was launched on June 11, 2008. It is named after Enrico Fermi, an Italian-American scientist who did pioneering work in high-energy physics.
- Fermi maps the entire sky every three hours, Fermi provides an important window into the most extreme phenomena of the universe, like gamma-ray bursts, black-hole jets, and pulsars.
- Fermi is an astrophysics and particle physics partnership, developed in collaboration with the U.S. Department of Energy, along with important contributions from academic institutions and partners in France, Germany, Italy, Japan, Sweden, and the U.S.

## Gamma Rays

- The highest-energy light in the universe.
- Gamma rays can have over a billion times the energy of the type of light visible to our eyes.
- They are produced by the hottest and most energetic objects in the universe, such as neutron stars and pulsars, supernova explosions, and regions around black holes.
- On Earth, gamma rays are generated by nuclear explosions, lightning, and the less dramatic activity of radioactive decay.
- Gamma-ray astronomy is the astronomical observation of gamma rays with photon energies above 100 keV(Kilo Electron Volt).
- Gamma rays are so energetic that they are harmful to life on Earth.
- Earth's atmosphere absorbs gamma rays, preventing them from affecting life on the ground.
- Astronomical observations of gamma-ray sources are therefore done with high-altitude balloons or satellites, above the protective blanket of Earth's atmosphere.
- The gamma rays possess high energy they can pass right through any lens or mirror, making it very difficult to focus them in a visible-light telescope.

### Note:

- Pulsars are types of neutron stars which emit radio pulses at regular intervals.
- Neutron Star is the dead relics of massive stars.
- An electronvolt is a unit of energy close to that of visible light.

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