



KAMARAJ IAS ACADEMY
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Alaknanda Galaxy

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Recently, researchers at National Centre for Radio Astrophysics - Tata Institute of Fundamental Research (NCRA–TIFR), Pune, have discovered a spiral galaxy and named it as Alaknanda.

About Alaknanda Galaxy

It is located about 12 billion light years away and has textbook spiral structure

It is named after a Himalayan river Alaknanda and the Hindi word for the Milky Way.

The galaxy has two well-defined spiral arms wrapping around a bright central bulge, spanning approximately 30,000 light-years in diameter.

It is a powerhouse of stellar birth, creating stars at a rate equivalent to about 60 solar masses annually.

It looks remarkably similar to our own Milky Way and formed when the Milky way was only 10 per cent of its current age.

It was discovered by using NASA's James Webb Space Telescope.

What is a Spiral Galaxy?

Spiral galaxies are twisted collections of stars and gas that often have beautiful shapes and are made up of hot, young stars.

In a spiral galaxy, the stars, gas, and dust are gathered in spiral arms that spread outward from the galaxy's center.

Structure

Most spiral galaxies contain a central bulge surrounded by a flat, rotating disk of stars

The bulge in the center is made up of older, dimmer stars and is thought to contain a supermassive black hole.

Approximately two-thirds of spiral galaxies also contain a bar structure through their center, as does the Milky Way

The disk of stars orbiting the bulge separates into arms that circle the galaxy.

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These spiral arms contain a wealth of gas and dust and younger stars that shine brightly before their quick demise