

Cosmic clutter and irregular galaxies.

There are so many unexplored interesting objects in the cosmos. Surely you've come across images of galaxies and heard a lot about our Milky Way? A structured galaxy with spiral arms that has become our home. But what if a galaxy doesn't have spiral arms and has no particular shape?

Let's take a closer look at **irregular galaxies**. They are partly similar to elliptical, spiral and lenticular galaxies, but they still have their own zest, thanks to which they were singled out as a whole special class.



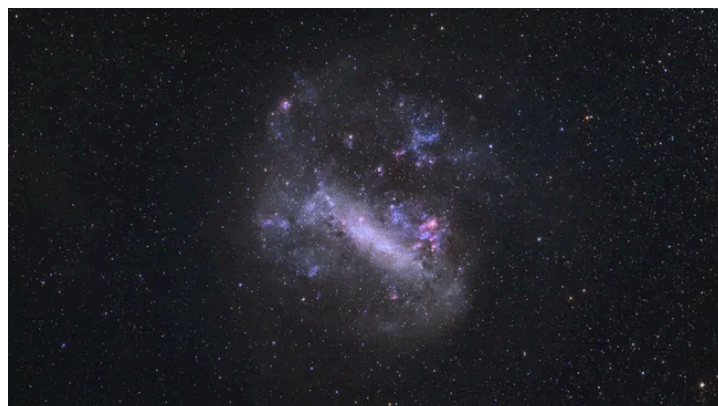
IC 4710 NASA / ESA / Hubble / Judy Schmidt, www.geckzilla.com.

If impressive, perhaps not so common to catch your eye either?

In fact, irregular galaxies make up about a quarter of all known galaxies. Scientists estimate about a quarter of them from the galaxies we know so far.

By the way, and not always different from their congeners. Although rare, some even have black holes in the center, as in the Milky Way, for example, and they have a lot of matter so that new cosmic bodies can be born.

And the closest representatives to us are the Large and Small Magellanic Clouds. They're 163,000 light years away from our galaxy. That's not so far away, is it?



credit: John Davis/Stocktrek Images via Getty Images

How do irregular galaxies form?

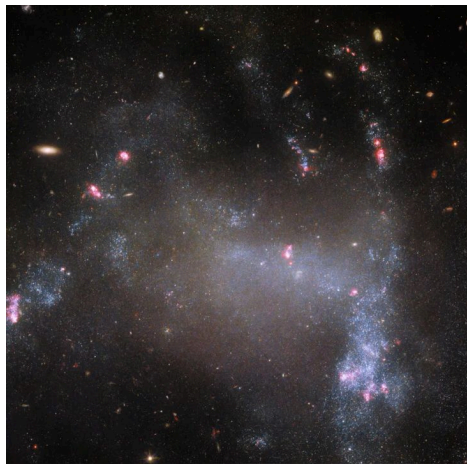
They started right at the time of the Big Bang, at which time there were far more galaxies than there are now. This is due to the fact that in the beginning there was more chaotic squeezing of galaxies, leading to gravitational influences. Also, galaxies didn't have stable structures in the beginning, so they were much easier to deform.

Now many previously irregular galaxies have become “regular” because of the stabilization of their structures. And for the formation of spiral and other “regular” galaxies are much more suitable conditions at the moment.

Can we say that all irregular galaxies are just temporary phenomena...?

Nowadays we can see how such cosmic phenomena occur due to gravitational deformation. There are several known factors in how this happens:

- ★ **Mergers between galaxies.** This deforms the previous shape of the galaxy, destroying its structure and giving it a more chaotic appearance.
- ★ **Gravitational disturbances.** Being close together, galaxies can deform each other's shapes under the influence of gravity.
- ★ **Weak gravity.**



UGC 5829 Credit: ESA/Hubble & NASA, R. Tully, M. Messa

Types of irregular galaxies.

There are three classifications in all, and they are particularly small, for, as a rule, each irregular galaxy differs from the other in some way.

Irr-I (Irregular Type I): These galaxies retain some structure, such as faint hints of spiral arms, but do not meet the strict criteria of spiral and elliptical galaxies. An example is the Large Magellanic Cloud. It is also divided into two categories:

Sm - irregular galaxies that have remotely resembling spiral arms, they are often called Magellanic spiral galaxies.

Im - those that do not have spiral arms.

Irr-II (Irregular Type II): These galaxies are completely chaotic, with no signs of order.

dlrr: Dwarf irregular galaxies that tend to have few heavy elements and lots of gas. They are considered by scientists to be very important for the development of the theory of galaxy evolution.

Interesting facts:

- ★ Irregular galaxies have a lot of gas and dust, making them a great place for star formation. For scientists, such galaxies serve as “laboratories” where they can explore this.
- ★ They can be “building material” for subsequent large galaxies.
- ★ Irregular galaxies are good for exploring the evolution of our universe and contribute immensely to science.
- ★ Due to their chaotic appearance, irregular galaxies can appear much younger than they actually are.
- ★ Irregular galaxies help to clarify the laws of gravity. Studying irregular galaxies, especially their star and gas dynamics, helps test existing models of dark matter and clarify the laws governing gravity.
- ★ They are sometimes called “galactic vagabonds.” They have repeatedly been found far from galaxy clusters, which only emphasizes their isolation.

Irregular galaxies are more than just a mess in the cosmos. They are clues to how star systems form and evolve. These cosmic 'chaotic patches' help us better understand the past and future of our Universe.

They are unique, chaotic and usually not like each other. Each one has its own twist, which makes them attractive. Maybe humans should learn from the wrong galaxies.