

# Beyond the Solar System



Picture (Map of the Milky Way Galaxy with the constellations that cross the galactic plane in each direction and the known prominent components annotated including main arms, spurs, bar, nucleus/bulge, notable nebulae and globular clusters.):

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[https://en.wikipedia.org/wiki/Milky\\_Way#/media/File:Milky\\_way\\_map.png](https://en.wikipedia.org/wiki/Milky_Way#/media/File:Milky_way_map.png)

With this last info board on the way through the solar system, however, you have not yet reached the end of our solar system. The gravitational force of the suns still reaches some more light years into the universe. Since the gravitational force can only be measured directly on the spot and mankind has not yet sent a probe to the edge of our solar system, the exact boundaries of our solar system are still in the dark. The extent of our solar system also depends very much on our neighbouring stars. How big are these, how far are these from the sun? There are points where the gravitational forces of our suns and their neighbouring stars balance each other out. This boundary line of our solar system will not have a spherical shape, but will enclose a spherical space that is very irregular in shape.

However, you can also travel beyond the solar system in your mind. In the near future, a journey to this region remains a vision. However, we can observe the light of the distant stars every night. Here are some indications for more distant destinations, whose distances are converted in planetary scale:

- Our nearest neighbouring star, Proxima Centauri, is according to our scale about 40,000 km (circumference of the Earth) away (in reality about 4.3 light years).
- Centre of the galaxy: about 250 million km (distance Sun-Mars) away (in reality about 25,000 light years).

- The Large and Small Magellanic Clouds are small galaxies orbiting our Milky Way and, according to our scale, are about 1.5 billion and 1.9 billion km (roughly Sun-Saturn distance) away (in reality, about 160,000 and 200,000 light-years, respectively).
- The next big galaxy, the Andromeda nebula, is according to our scale about 25 billion km (five times distance Sun - Neptune) away (in reality about 2.5 million light years).

Even compared to these objects, the 'end' of the world as we know it is still more than 10,000 times further away.

However, our solar system has already been visited by objects moving through our galaxy and having a short rendezvous in our solar system.

**Link:** [https://en.wikipedia.org/wiki/Interstellar\\_object](https://en.wikipedia.org/wiki/Interstellar_object)