

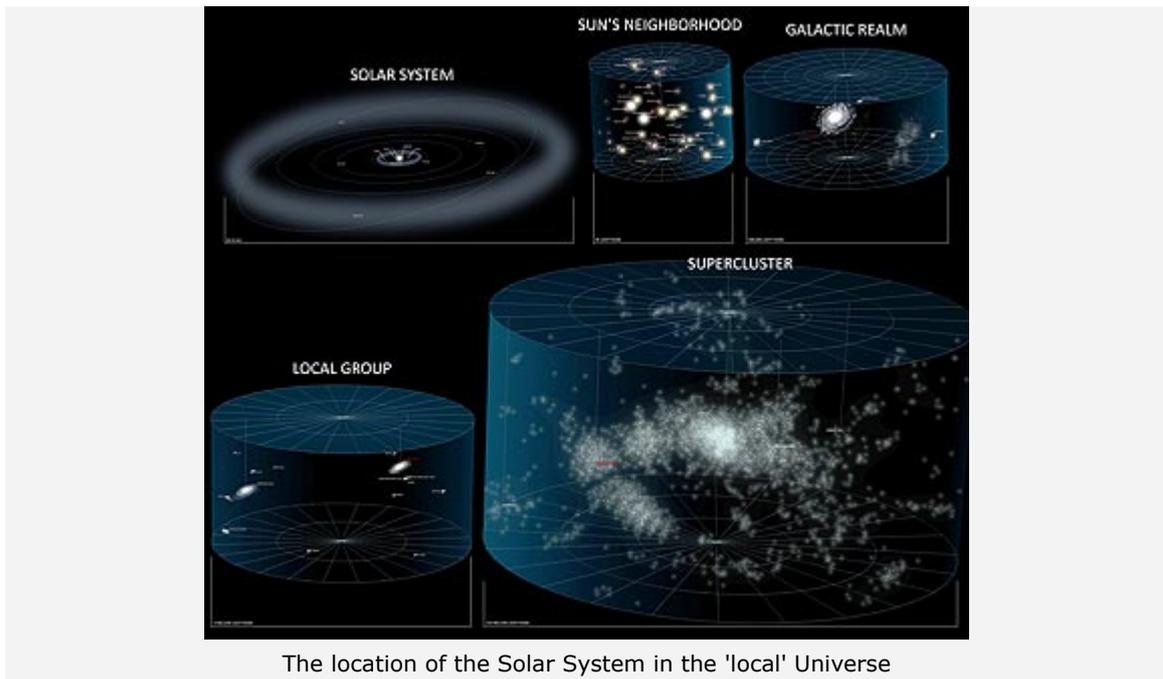
**News Archive 2009**

**Where are the nearest islands of stars?**

Week 50

Cosmic neighbourhood: the Solar System, the Sun's neighbouring stars, the area around the Milky Way, the Local Group and the Virgo Supercluster

Earth's home galaxy, the Milky Way, consists of more than 100 billion stars and its spiral arms extend across 100,000 light-years. (See also the astronomy question from week 11: How fast is the Earth moving?) As if these were not already virtually inconceivable numbers for humans, the Milky Way is only one galaxy among probably billions of galaxies of various sizes and shapes that can be seen in the visible Universe using modern telescopes.



Galaxies are not distributed evenly throughout space. They appear in groups, galaxy clusters and superclusters. The Milky Way system is surrounded by several dwarf galaxies, of which the Large and the Small Magellanic Clouds are the most well known. Both are visible in the southern sky with the naked eye. The Andromeda Nebula (more correctly: the Andromeda Galaxy – see the astronomy question from week 35: How can there be clouds in space?), despite being around 2.5 million light-years away, is visible to the naked eye as a weak nebula in the constellation Andromeda. With a diameter of around 150,000 light-years, the Andromeda Galaxy is a little larger than the Milky Way and is similarly surrounded by smaller satellite galaxies. The Andromeda Galaxy is one of the few galaxies that is moving towards us and will probably collide with the Milky Way in several billion years (see the astronomy question from week 30: Whither goest thou, Milky Way?).

### **Star cluster – galaxy – galaxy group/galaxy cluster – supercluster**

Our Milky Way and the Andromeda Galaxy are the most massive members of what is known as the Local Group, which also contains around 40 dwarf galaxies. On greater length scales, the Local Group is assigned to the Virgo Supercluster. In the centre of the Virgo Supercluster there is the Virgo Galaxy Cluster, which is named after the constellation Virgo. The Local Group is attracted by the large mass of the Virgo Galaxy Cluster and is moving towards it.

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