

Visible Deep Sky Objects

In the field of astronomy, “deep sky” objects are things in space outside of our solar system. Although pictures of different deep sky objects are fun to look at, the labels and types of objects being shown can also be confusing.

Object Labels

The deep sky objects are either labeled “M”, “NGC”, “IC”, and in one case “Col.” objects. The most famous objects are the “M” objects, named after Charles Messier, a French astronomer in the 1700s. He was actually hunting for comets and compiled an initial list of things he observed that he determined were not in fact comets. Those objects, later supplemented by his colleague Pierre Mechain, are today considered among the brightest and most famous galaxies and nebula visible from Earth. The label “NGC” stands for the “New General Catalogue” of deep sky objects, which was compiled by Danish astronomer J.L.E. Dreyer. This “new” catalogue is now more than 100 years old. All M objects also have NGC numbers. The “IC” notation is just another compilation and stands for “Index Catalogue”. Finally, the “Col.” notation stands for the “Catalogue of Lynga”, which is an category of additional astronomical objects.

Types of Objects

The pictures of deep sky objects on this site represent only eight different types of objects:

Open Clusters: Star clusters containing several hundred to several thousand stars, generally distributed in a region a few light years across.

Globular Star Clusters: Roughly spherical, densely packed clusters of hundred of thousands or even millions of stars. They orbit in a halo around the Milky Way Galaxy.

Galaxies: Families of stars held together by their mutual gravitational attraction and with a distinct identity separating them from other galaxies.

Emission Nebulas: Glowing clouds of primarily hydrogen gas in interstellar space. In emission nebulas the gas becomes excited or ionized (and then shines) by energy from nearby stars. Many emission nebulas are stellar birthplaces in which the gas becomes excited by the energy from hot young stars.

Dark (Absorption) Nebulas: Opaque dust clouds that block or absorb light from stars and gas that lie behind them.

Reflection (Bright) Nebulas: A cool cloud of interstellar gas and dust that shines because the dust scatters light from nearby stars. The cloud itself is not luminous.

Planetary Nebulas: Named because their disk-like shapes resembled planets to ancient astronomers. Actually, they are expanding shells of gas surrounding stars in late stages of stellar evolution. They are formed in the process of mass loss which occurs when red giants evolve to white dwarf stars.

Supernova Remnants: Gas remnants of exploded stars expanding in interstellar space.