

Exercise #2 - Get familiar with the descriptions of galaxies.

DIFFERENT TYPES OF GALAXIES:

Types of Individual Galaxies:

See Hubble's tuning fork for an early visual method for describing galaxy shapes.

Consider Different Classification types based upon the electromagnetic radiation emitted.

Examples:

AGN's, or Active Galactic Nuclei, are defined as galactic nuclei that emit more electromagnetic radiation than a normal galaxy. The six main characteristics that define AGN's are:

1. compact angular size,
2. high luminosity,
3. continuum radiation (all types of radiation in the spectrum are emitted),
4. emission lines (see Seyfert type for emission of ionized gas)
5. variability of emission, and
6. strong radio emission.

Quasars, or quasi-stellar radio sources, are similar, as they are galaxies that contain active nuclei. This makes them slightly different than AGN's, but closely related.

Seyfert Galaxy are a subclass of active galaxies classified by emission lines of ionized gas. The two main classifications are Type 1 and Type 2. Type 1 Seyferts emit narrow and broad spectral lines, while Type 2 Seyferts only emit narrow lines. Some galaxies can also be classified as numbers between 1 and 2, like 1.5, depending on the relative sizes of the lines. Perseus A is an example of a Type 1.5 Seyfert galaxy.

Galaxy Groups and Clusters:

Galaxies are usually located close to other galaxies. A **galaxy group** is the smallest group classification, and it refers to a group of about 30-50 galaxies. The Milky Way is located in the Local Group, along with the Andromeda and Triangulum Galaxies. **Galaxy clusters** are slightly larger than groups. Although they seem to be held together by gravity, there is no set structure to galaxy clusters. The largest classification is that of **galaxy superclusters**, which are groups of other groups and clusters. The Milky Way is located in the Virgo (or Local) Supercluster.

Q. Are any of the DSO's for this year in galaxy groups, clusters or superclusters?

A. DSO(s): _____ (name of group or cluster) _____
