Class 25: external galaxies

Hubble tuning fork diagram

Ellipticals

- E0
- E2
- E5

Normal spirals

- Sa
- Sb
- Sc

SO

SBa

SBb

SBc

Barred spirals

All images taken with Faulkes telescope North
Andromeda Galaxy...taken from our roof
UV light: hot stars

http://apod.nasa.gov/apod/ap120518.html
Infrared: warm dust
X-ray: massive binaries
(blue)
(orange)
The Whirlpool Galaxy (M51) — classic spiral

http://apod.nasa.gov/apod/ap060219.html
Note the signs of recent star formation in the arms

http://apod.nasa.gov/apod/ap060219.html
a spiral galaxy with less dramatic arm structure
Hubble tuning fork diagram

Ellipticals

- E0
- E2
- E5

Normal spirals

- Sa
- Sb
- Sc

SO

SBa

SBb

SBc

Barred spirals

all images taken with Faulkes telescope North
an elliptical galaxy and a spiral galaxy

http://apod.nasa.gov/apod/ap120914.html
Magellanic stream (pink is 21 cm)

hydrogen gas being “tidally stripped” from the clouds by the gravity of the Milky Way
galaxies are often found in groups

http://apod.nasa.gov/apod/ap110829.html
galaxies interact (gravitationally)
Centaurus A: an elliptical galaxy that swallowed a spiral?

http://apod.nasa.gov/apod/ap100313.html
most galaxies are in giant galaxy clusters

note the “lensing” of background galaxies (the bluish arcs)