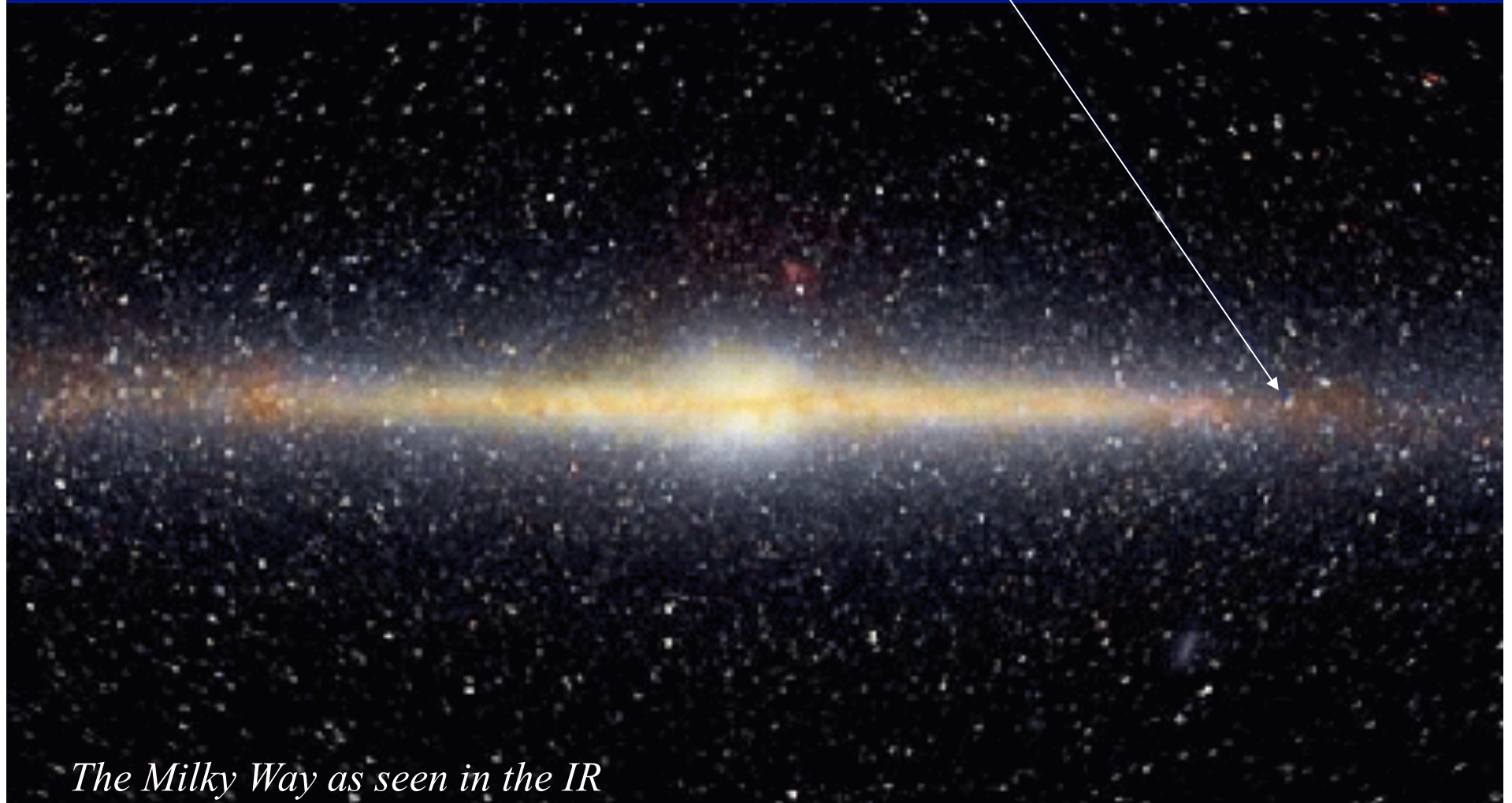


Introduction to Galaxies

ASTR 303

Julio F. Navarro

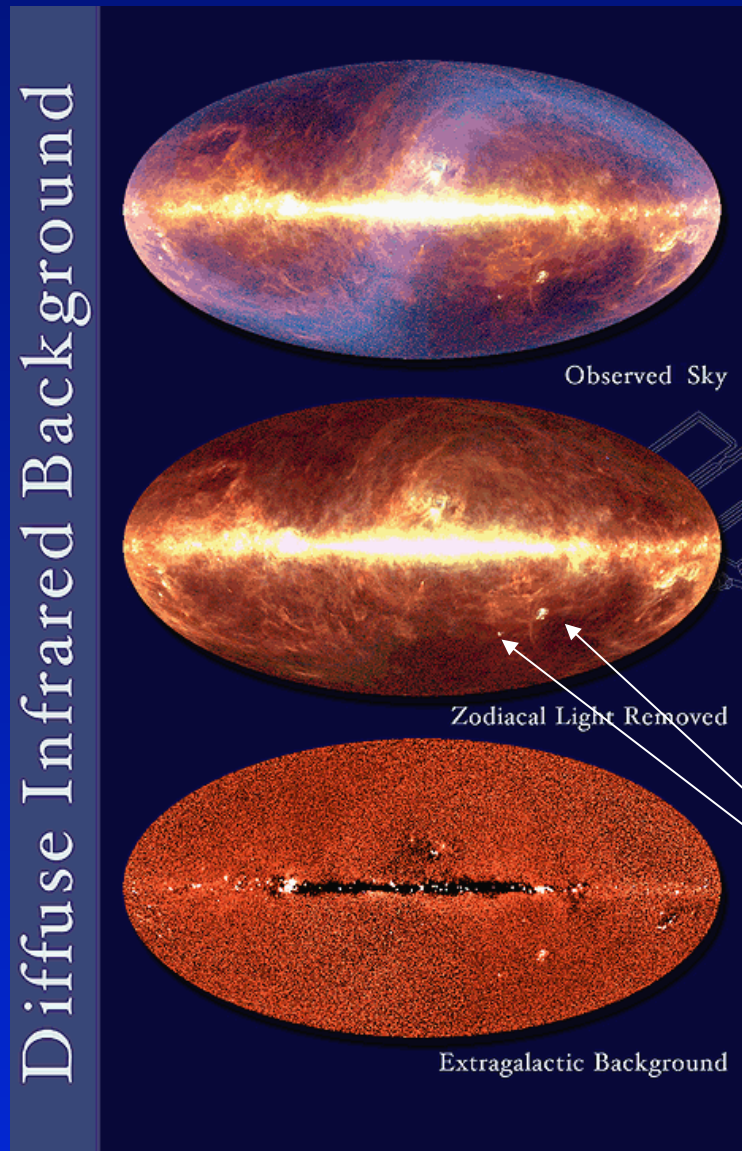


The Milky Way as seen in the IR

I. The Galaxy Gallery

- Our home galaxy and our nearest neighbors
 - the Milky Way
 - the Magellanic Clouds
- The world of galaxies
 - Ellipticals (stars distributed in a spheroidal component)
 - Spirals (stars and gas mainly in a disk)
 - Irregulars
 - Bizarre (interacting)

The Milky Way (our home)



The
Magellanic
Clouds

San Diego and the Milky Way



The Milky Way (our home)



The Magellanic Clouds I: (our nearest neighbors)



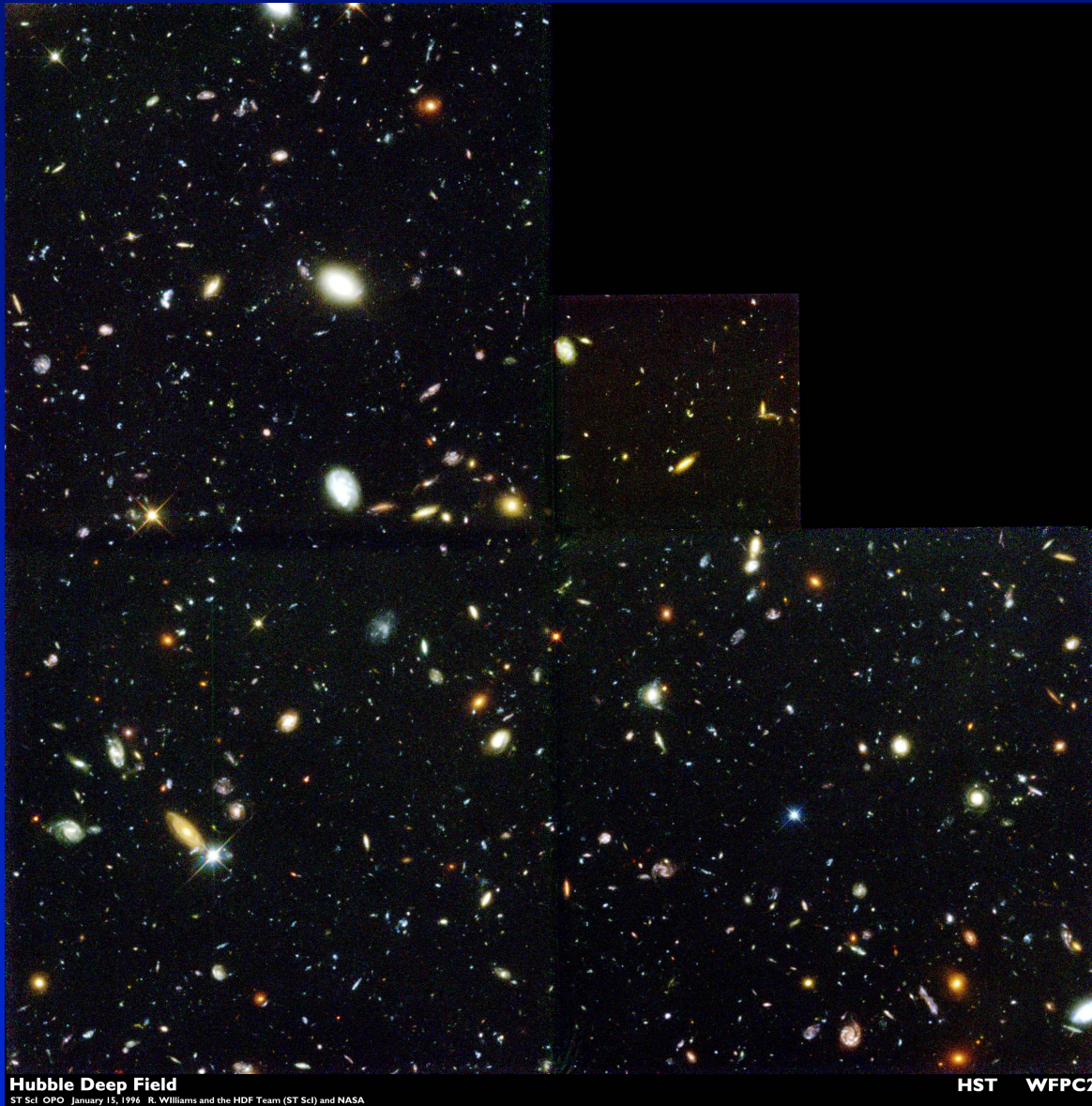
The Large Magellanic Cloud

The Magellanic Clouds II: (our nearest neighbors)



The Small Magellanic Cloud

The Hubble Deep Field



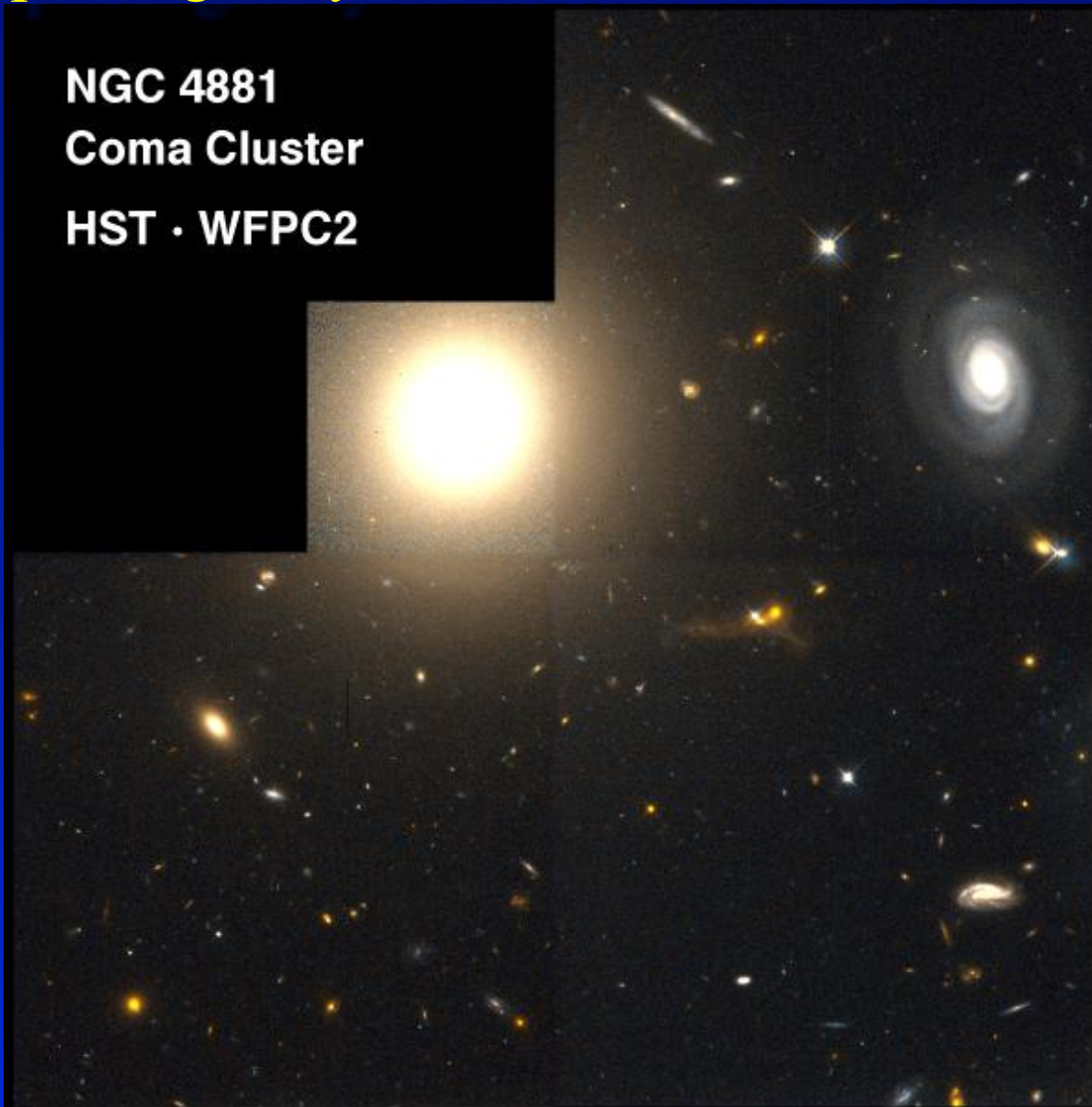
Stare deep
outside the
Milky Way
and most of
what you see
are galaxies.

Messier 87: An elliptical galaxy



An elliptical galaxy at the center of the Coma cluster

NGC 4881
Coma Cluster
HST · WFPC2

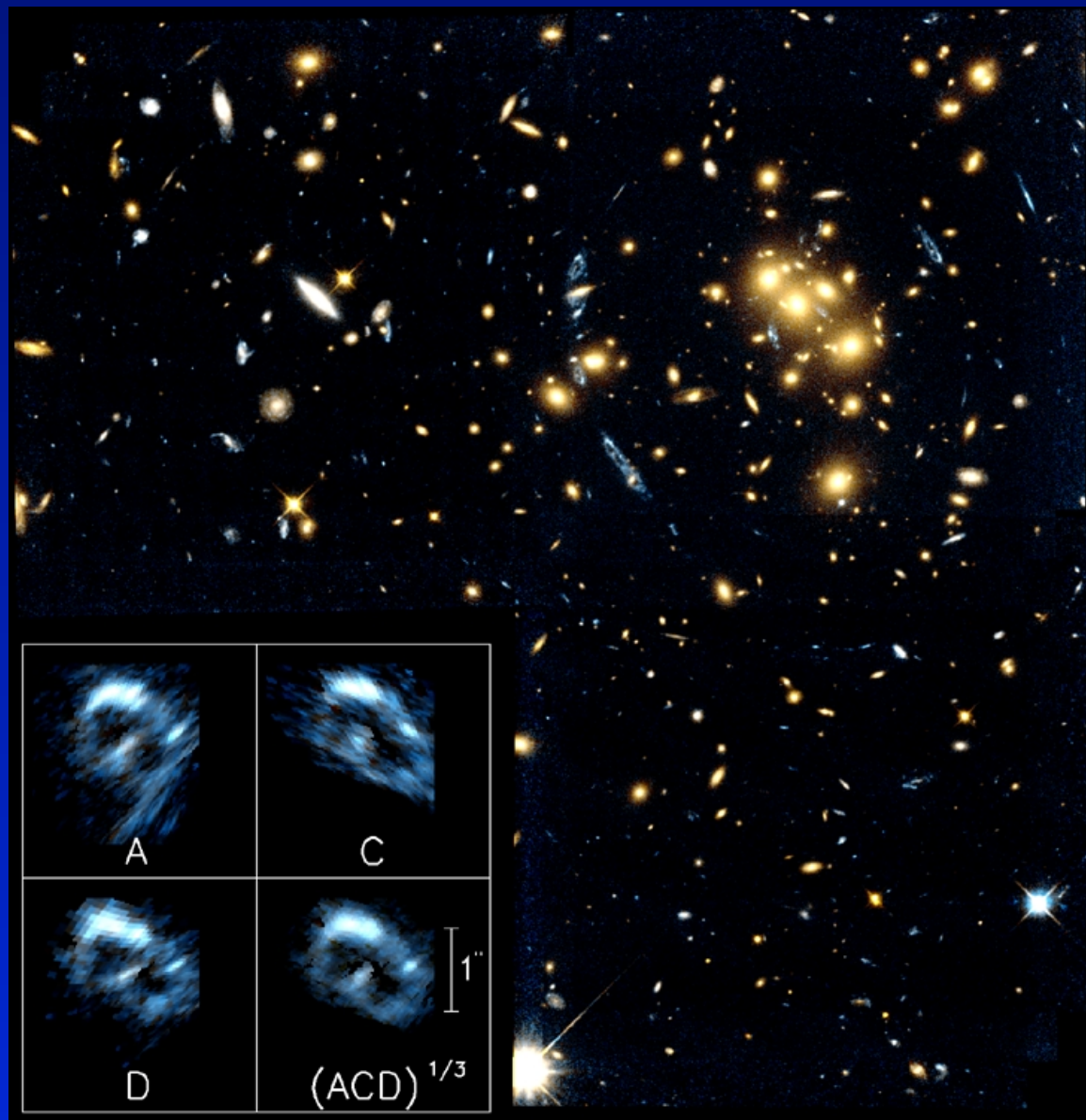


ST ScI OPO PF95-07 · January 1995 · W. Baum (U.WA), NASA

Leo I: a small and nearby elliptical



A cluster of galaxies



The Clues (I):

- Elliptical galaxies are mostly stellar systems, with little diffuse gas and dust.
- Ellipticals span a huge range of masses, from 10 million stars to 1000 billion stars.

A Spiral (disk) galaxy

1 parsec $\sim$ 3 light years

1 kpc $\sim$ 3000 light years

← 50 kpc →

A spiral galaxy seen edge-on

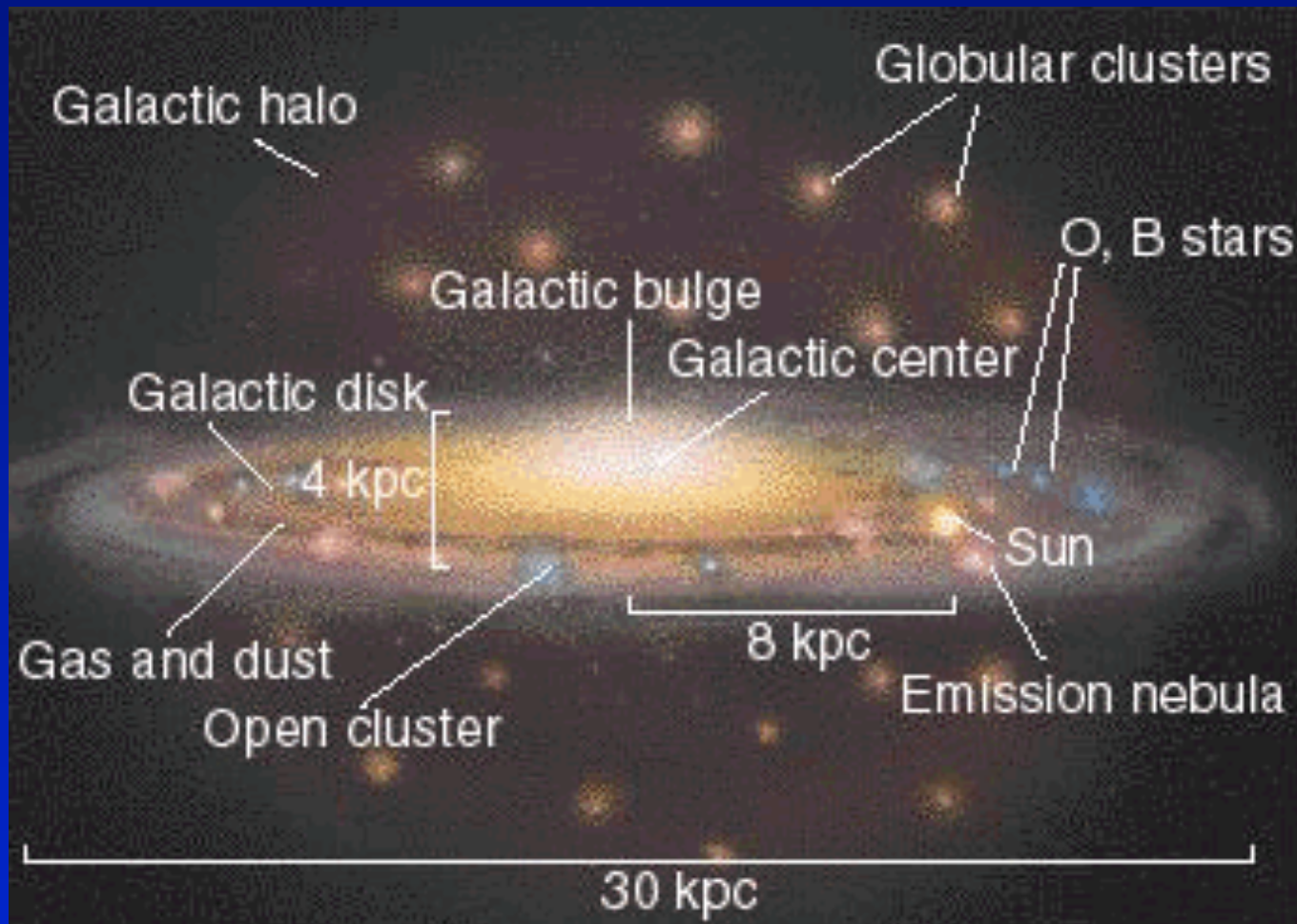




Another edge-on disk galaxy



Our own edge-on disk galaxy



AAT 100

Between spirals and ellipticals:
a transition object



© Anglo-Australian Observatory

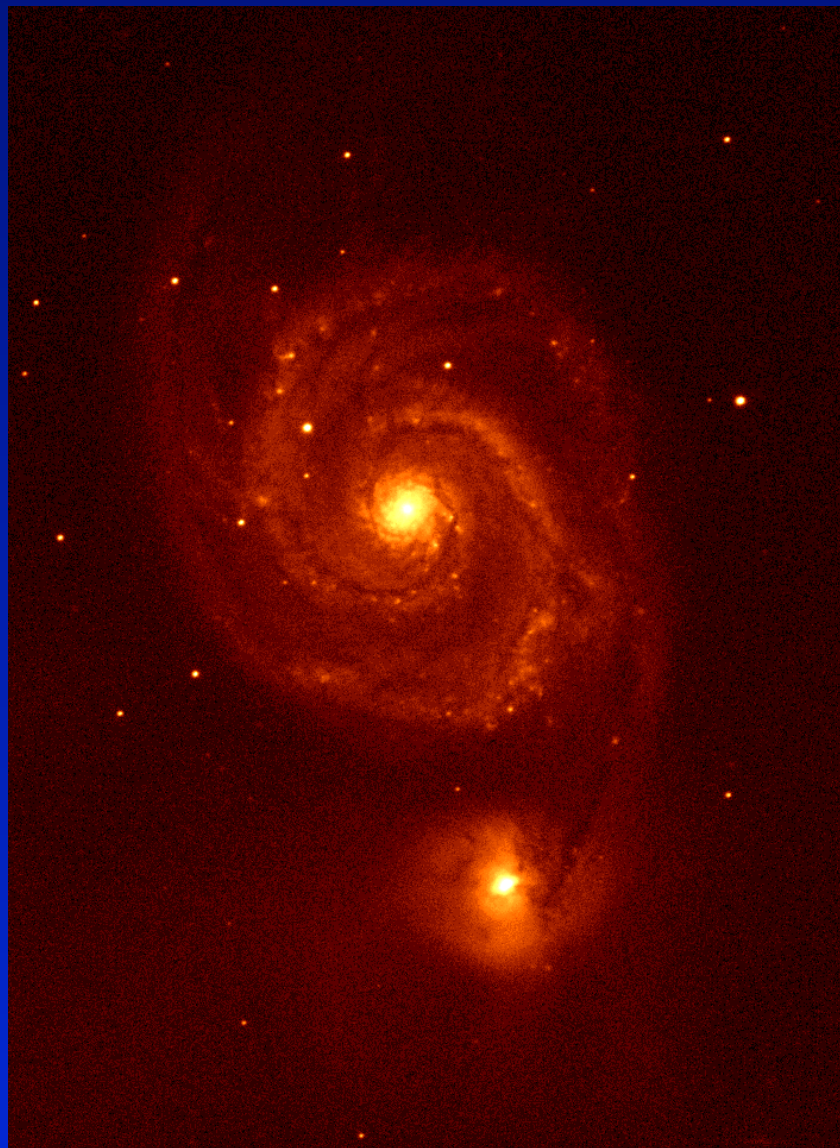
The Clues (II):

- Spiral galaxies are more numerous than ellipticals.
- On average, elliptical galaxies are more luminous than spirals

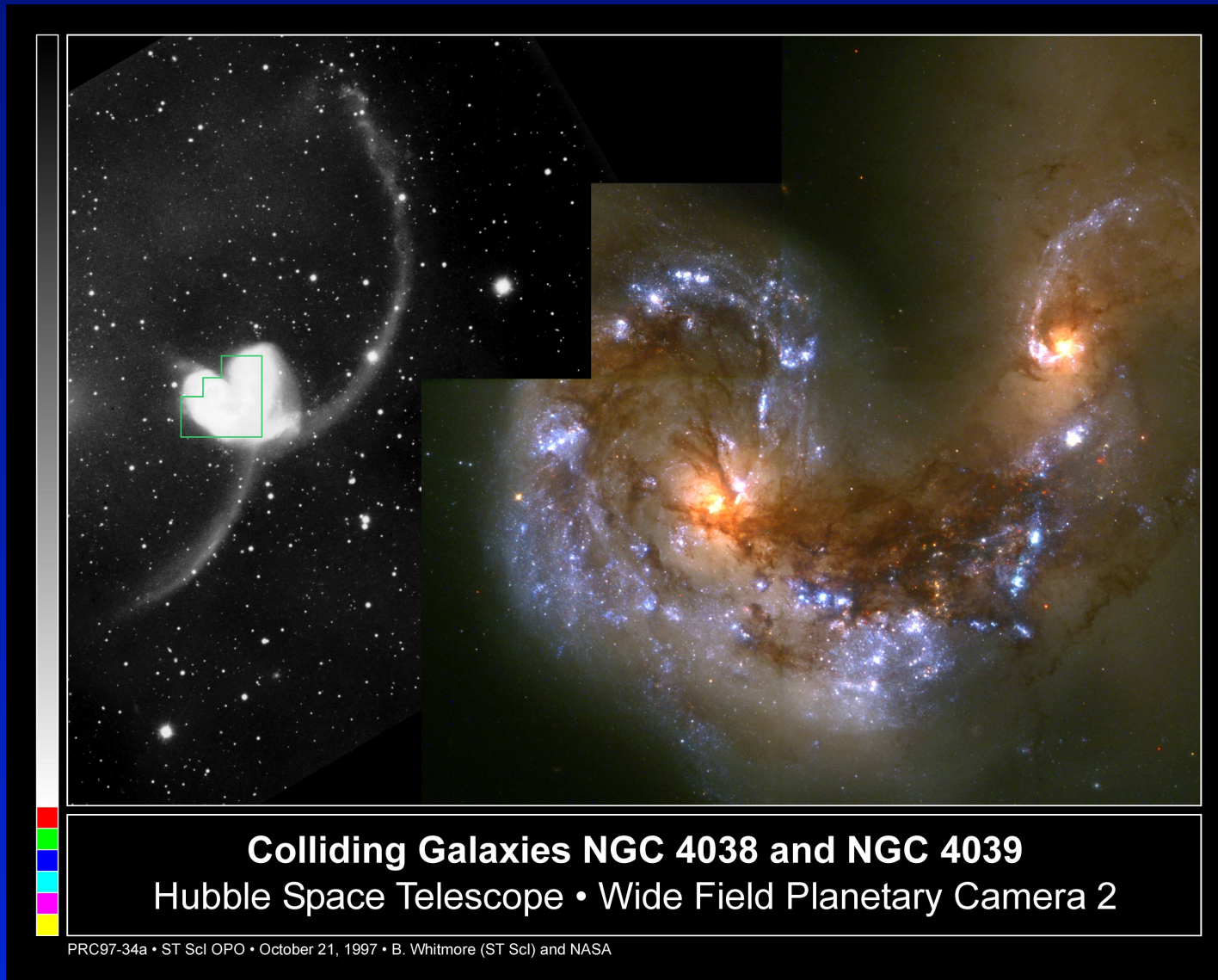
NGC 5128: A plain bizarre-looking galaxy



Messier 51: an interacting galaxy



The Antennae: a pair of interacting galaxies



The End