

Swift



***Swift* Survey of Nearby Galaxies**

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on behalf of the *Swift* Team

Rationale

Use the multi- λ capabilities of Swift to perform a sensitive survey of nearby galaxies in the opt+UV+X-rays

Has been proposed and discussed during the Swift team meeting in 2006 as a suitable “fill-in” program

Galaxies selection criteria:

- Uniform distribution of galaxies across the sky
- Short exposure times of 1ks per UVOT filter
- No time constraints
- Minimal to zero impact on GRB science
- Nearby galaxies, $d < 100$ Mpc
- Extents of galaxies a few arcmin to fit into UVOT field-of-view
- All Hubble types, preference to those not obs by

Scientific Objective

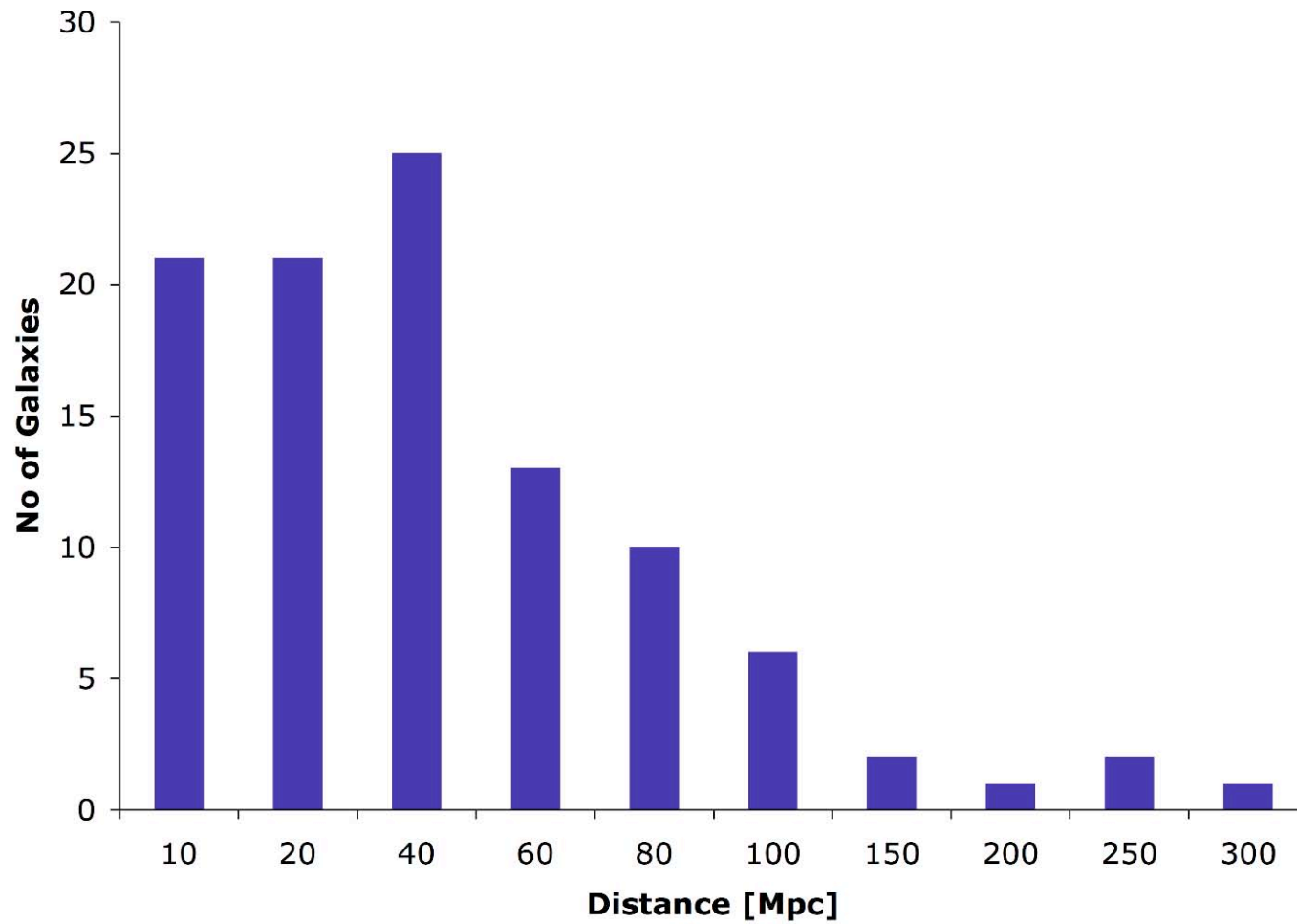
A wide range of scientific topics can be addressed, such as:

- UV imaging and photometry as a probe of SFR processes (good spatial resolution and photometric accuracy, 6 filters)
- Cooling flows and mass deposition rates for cluster galaxies
- Detection of previously unknown ULXs:
Timing analysis on previously un-explored time domains of days
Sensitive searches for optical+UV counterparts to study environs
- Construction of SED of galaxies (calibration of L_{α} galaxies)
- UV surface brightness of ellipticals as a probe of

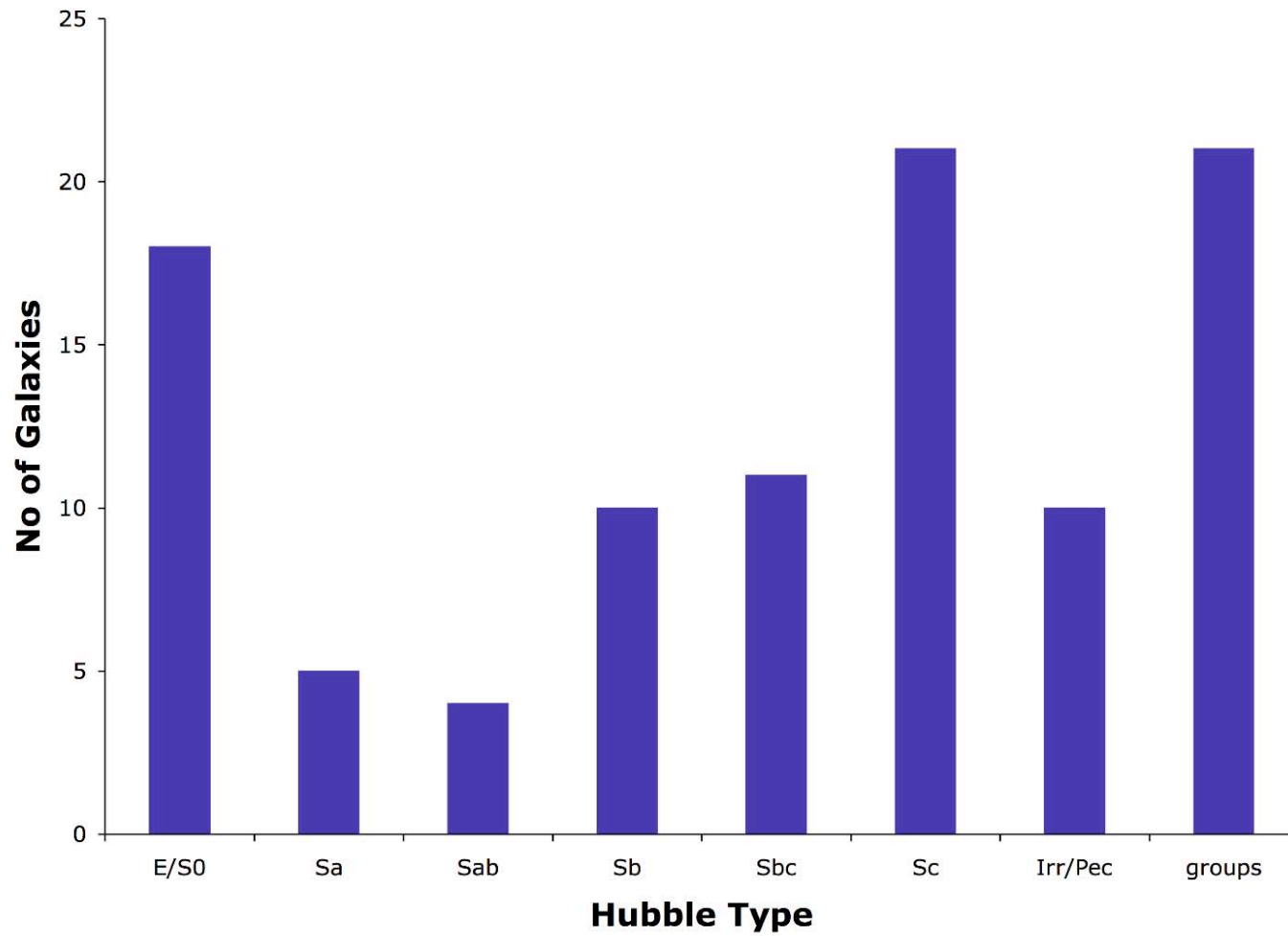
Status

- >100 'normal' (i.e. non-AGN) galaxies have been observed to date
- Processing of the data is ~100% complete:
Aspect-correction, merging of data, creation of exposure maps ...
- Data will be added to the HEASARC data archive
- Can be browsed through HEASARC or Swift archive interfaces
- Data will be available to the community by Q4 2007

Distance Distribution

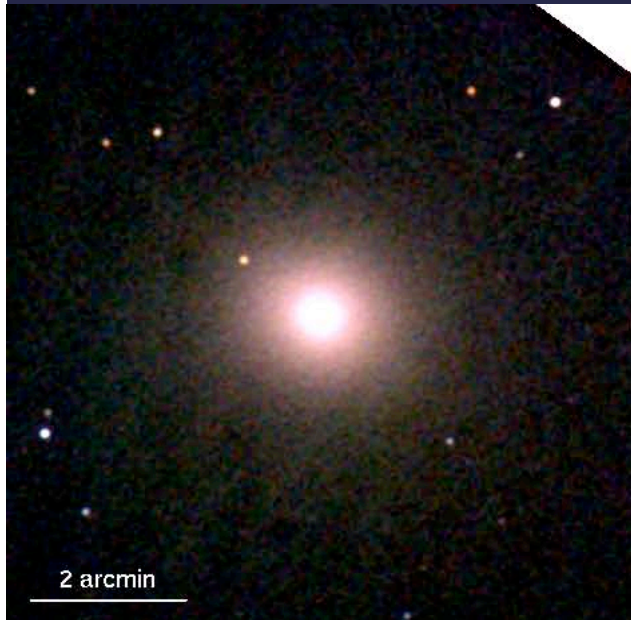


Hubble Types

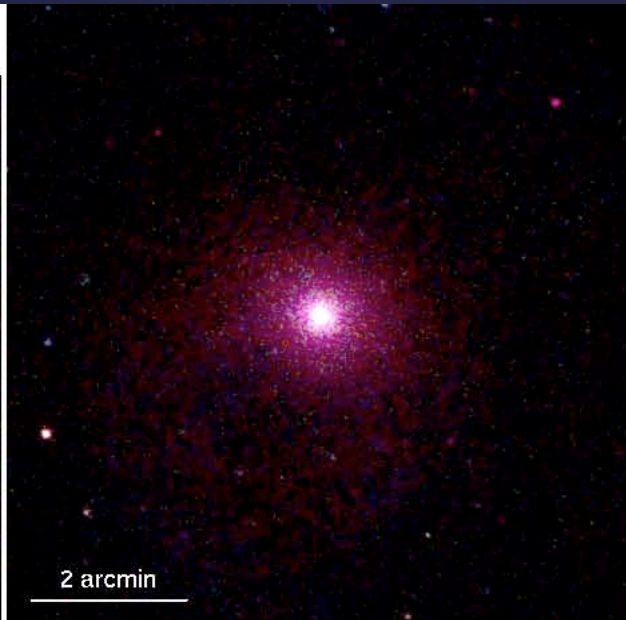


Elliptical Galaxies

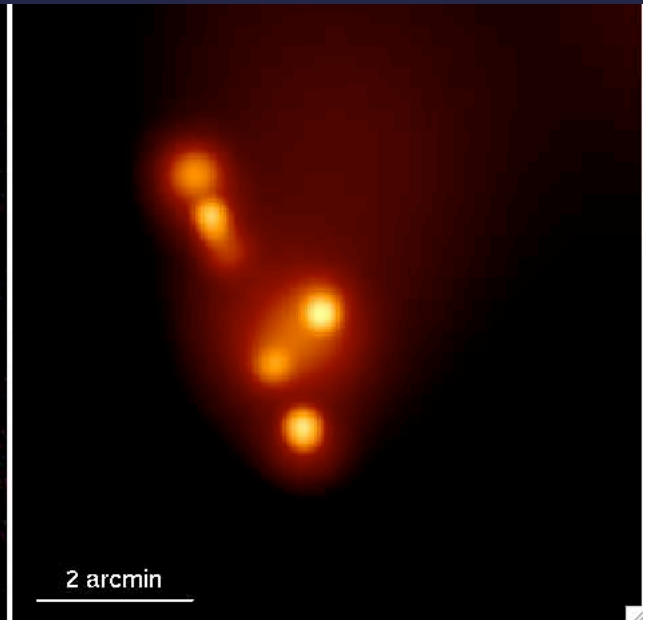
NGC 3953



V, B, U



W1, M2, W2



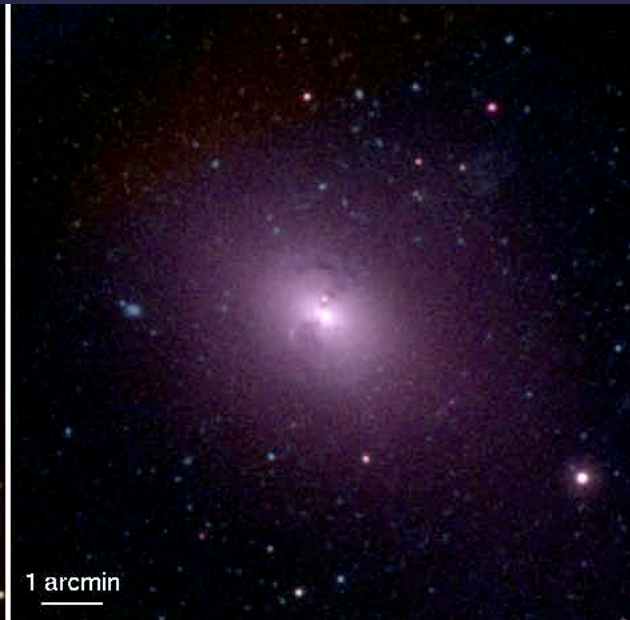
X-ray

Elliptical Galaxies

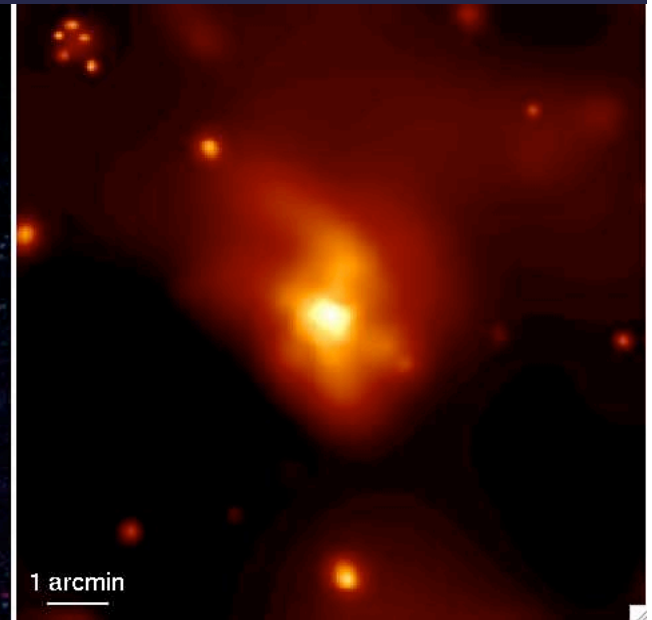
NGC 1316



V, B, U



W1, M2, W2



X-ray

Spiral Galaxies

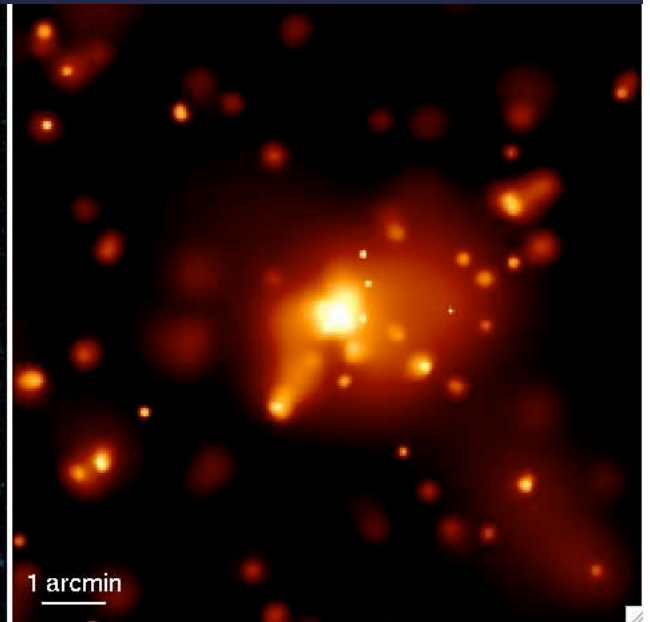
NGC 4321



V, B, U



W1, M2, W2



X-ray

Spiral Galaxies

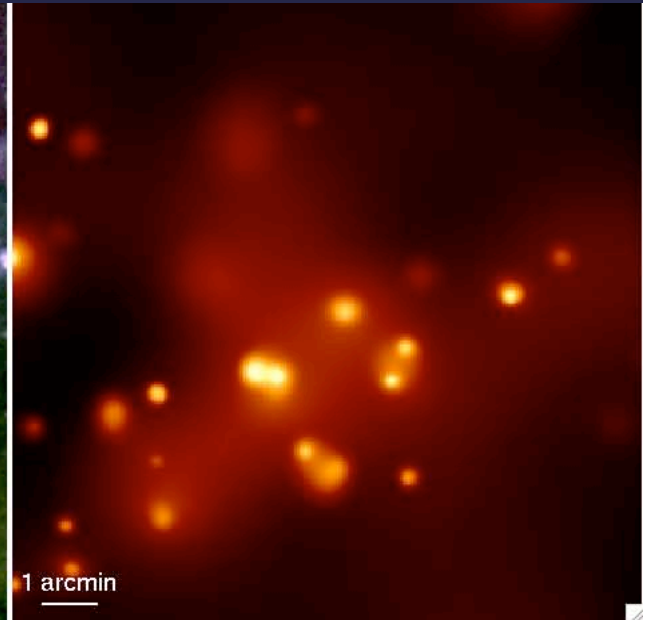
M101



V, B, U



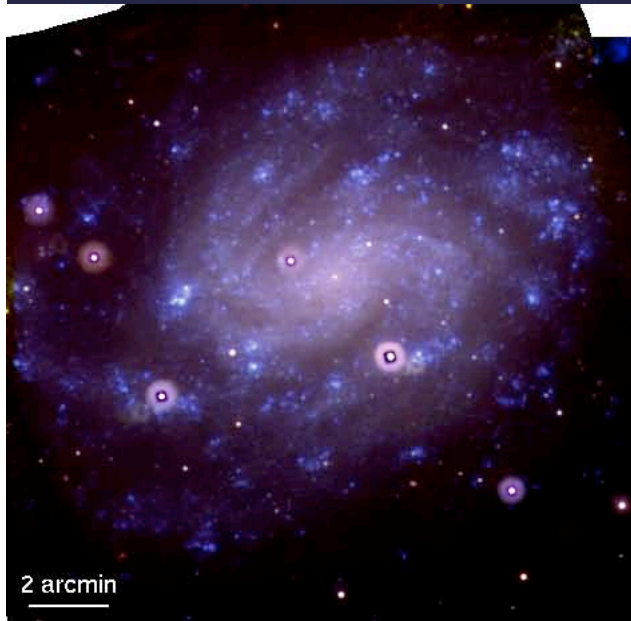
W1, M2, W2



X-ray

Spiral Galaxies

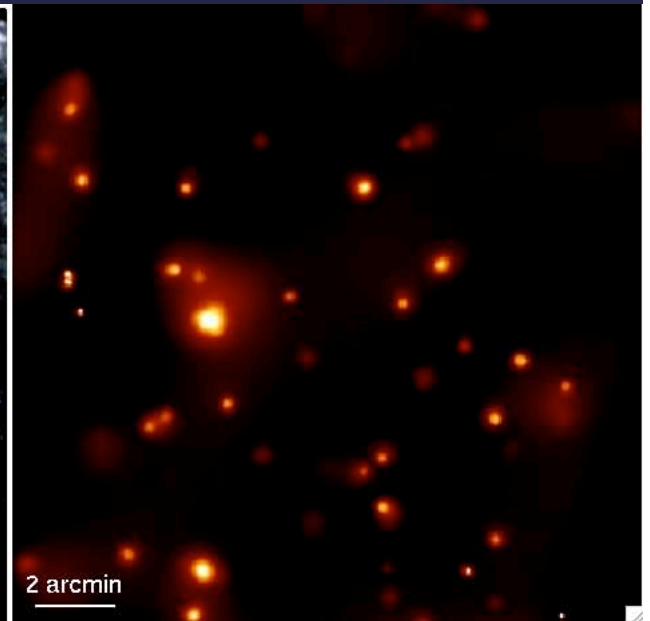
NGC 300



V, B, U



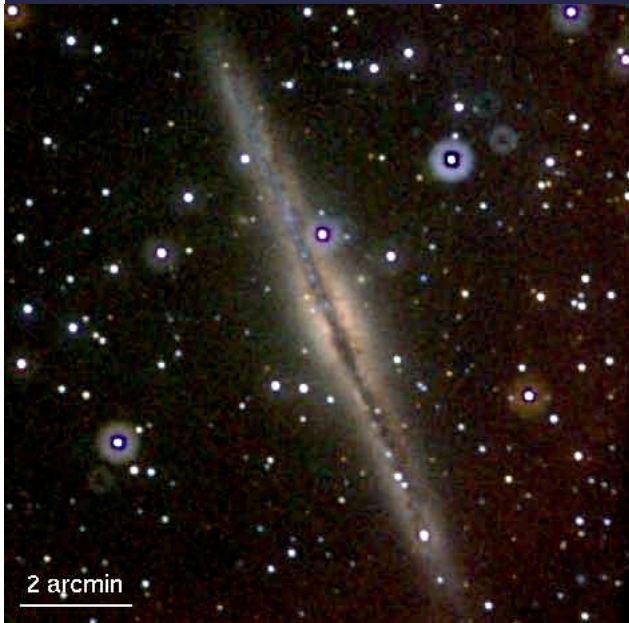
W1, M2, W2



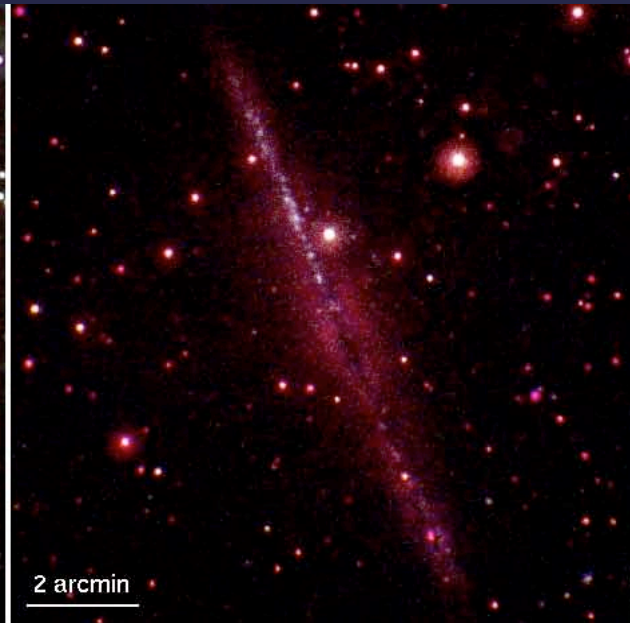
X-ray

Spiral Galaxies

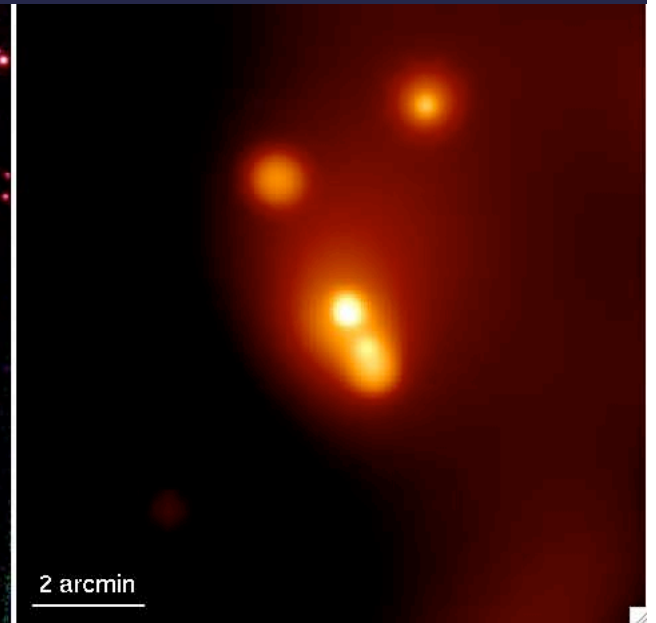
NGC 891



V, B, U



W1, M2, W2



X-ray

Spiral Galaxies

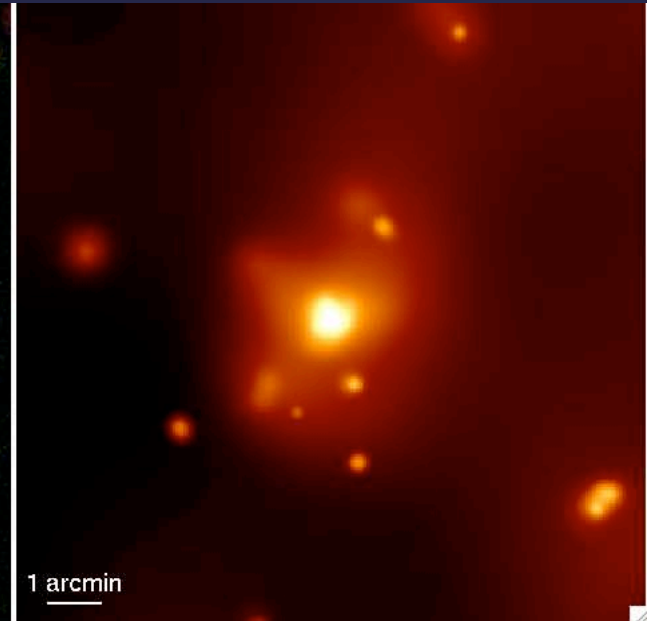
NGC 1365



V, B, U



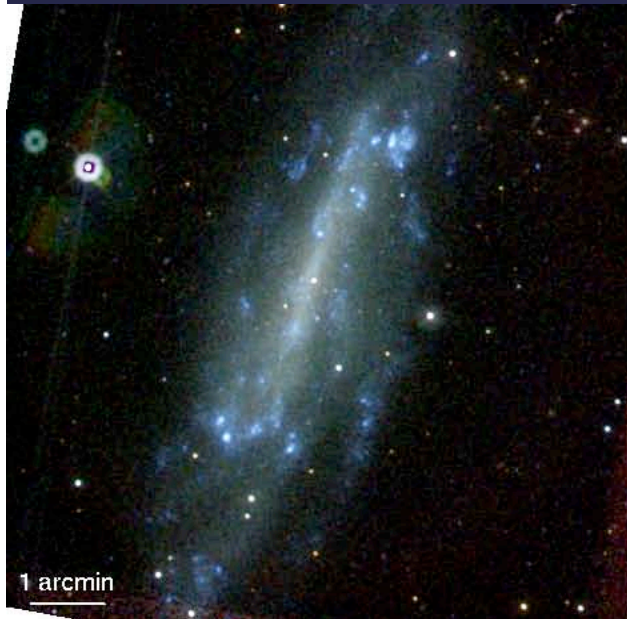
W1, M2, W2



X-ray

Spiral Galaxies

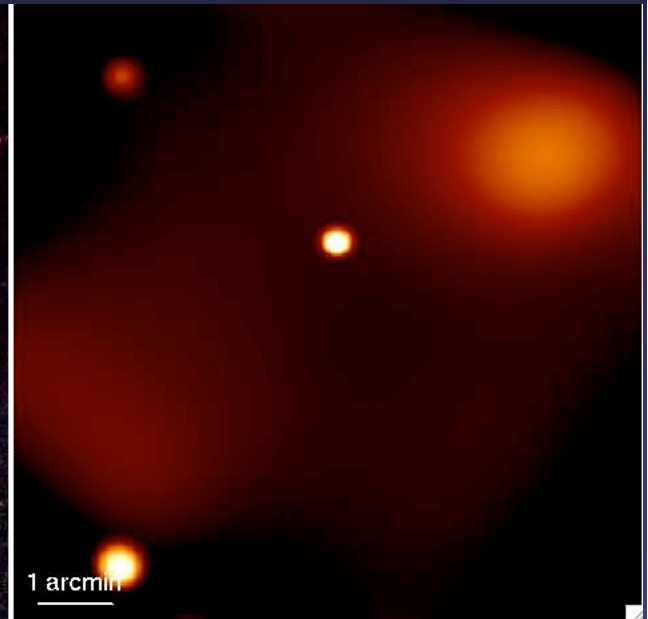
NGC 4236



V, B, U



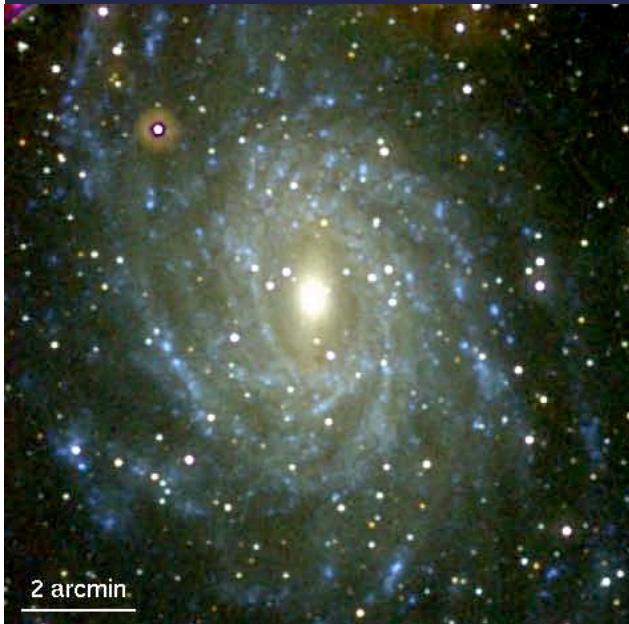
W1, M2, W2



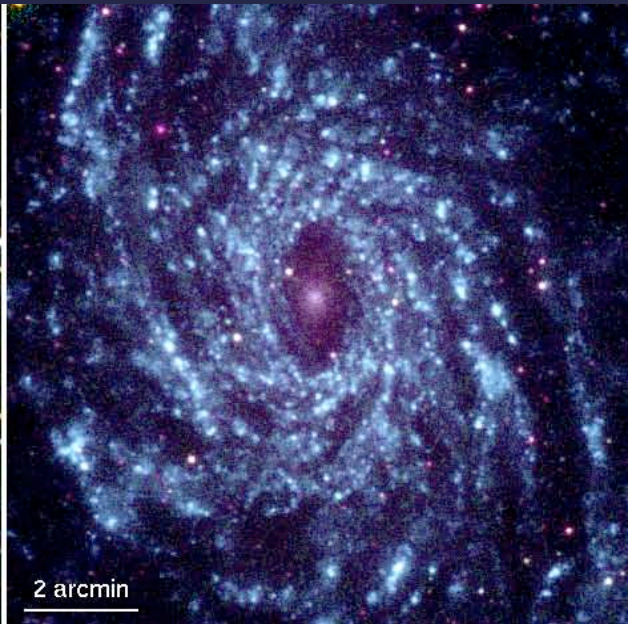
X-ray

Spiral Galaxies

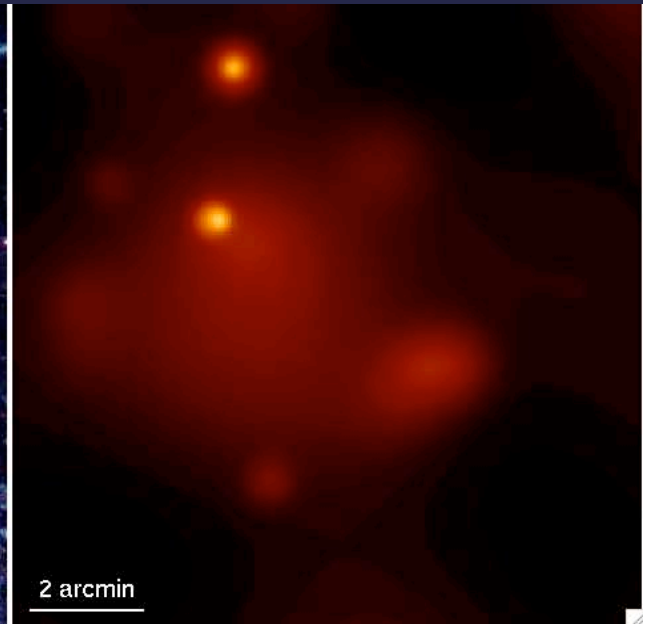
NGC 6744



V, B, U



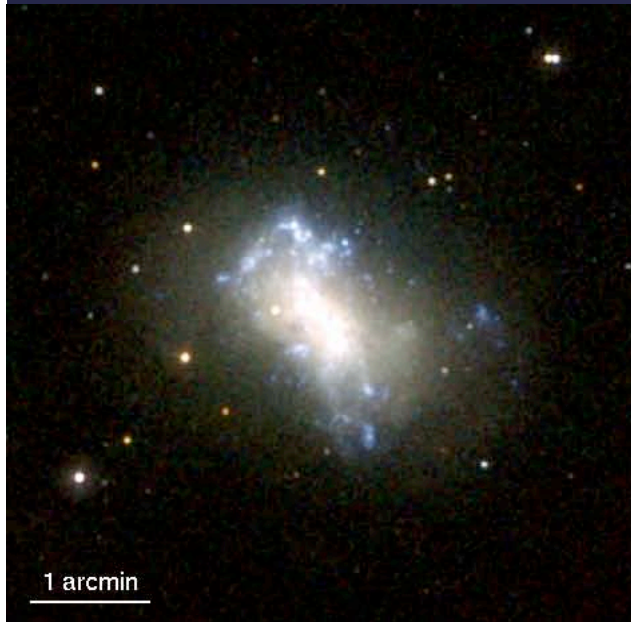
W1, M2, W2



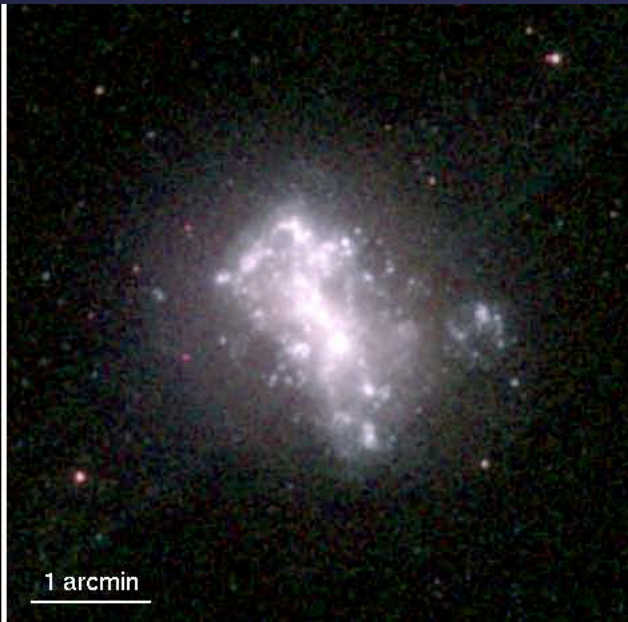
X-ray

Irregular Galaxies

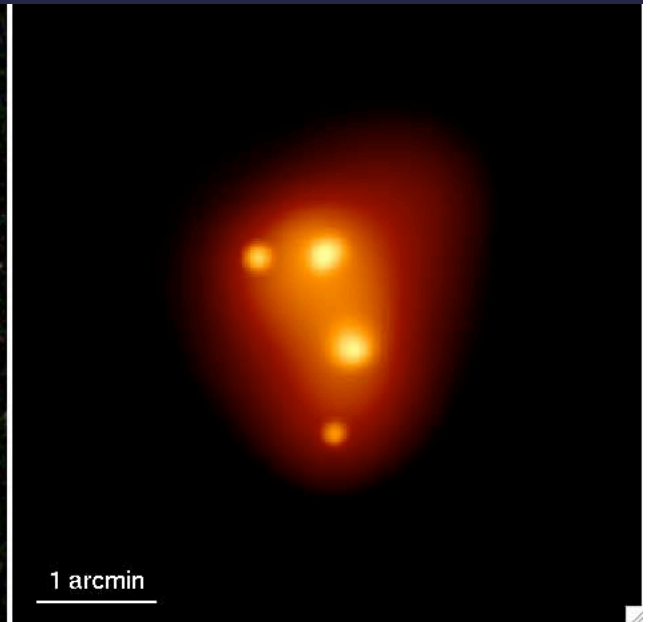
NGC 4449



V, B, U



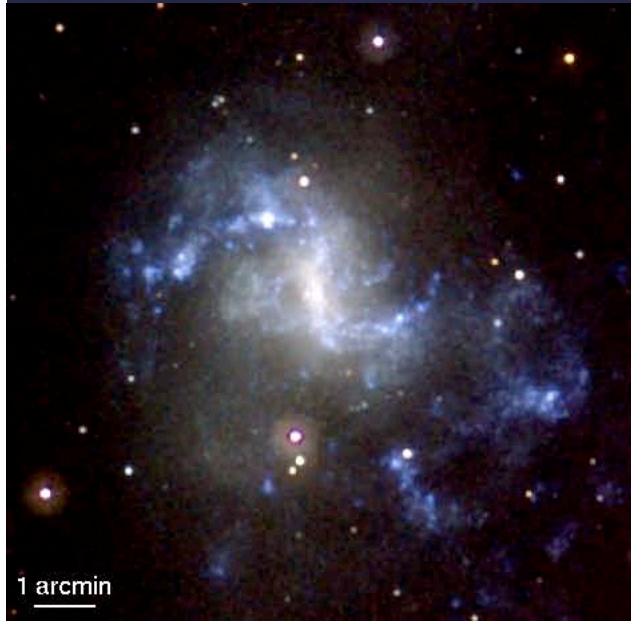
W1, M2, W2



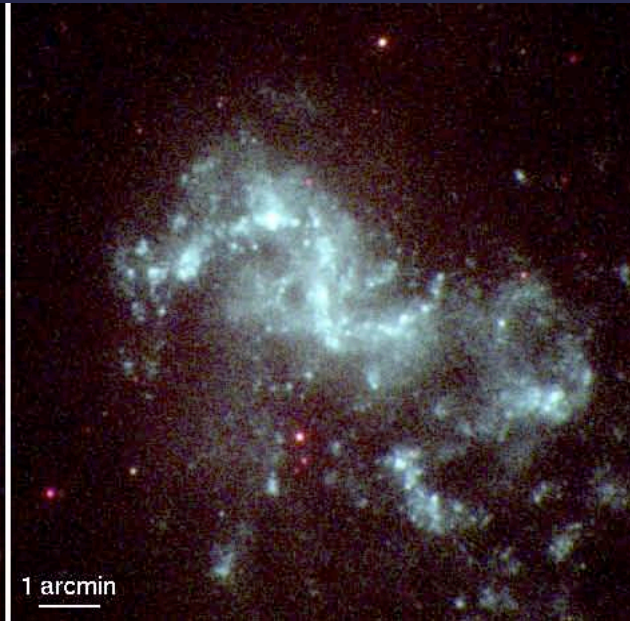
X-ray

Irregular Galaxies

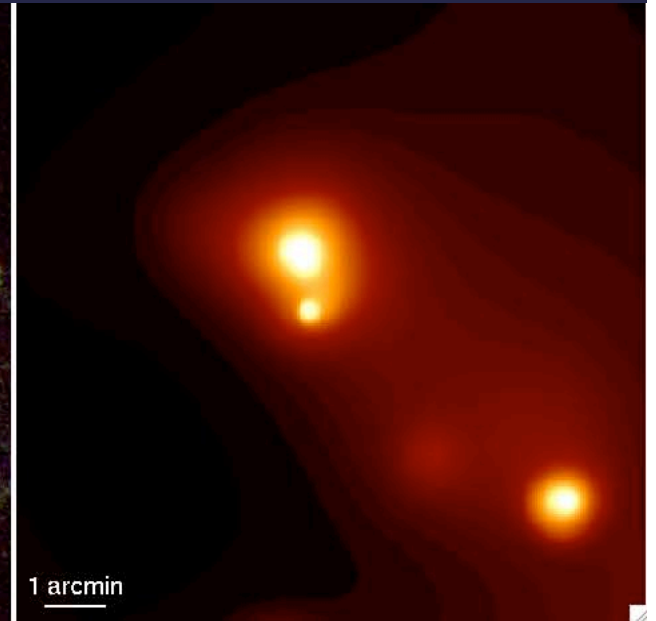
NGC 1313



V, B, U



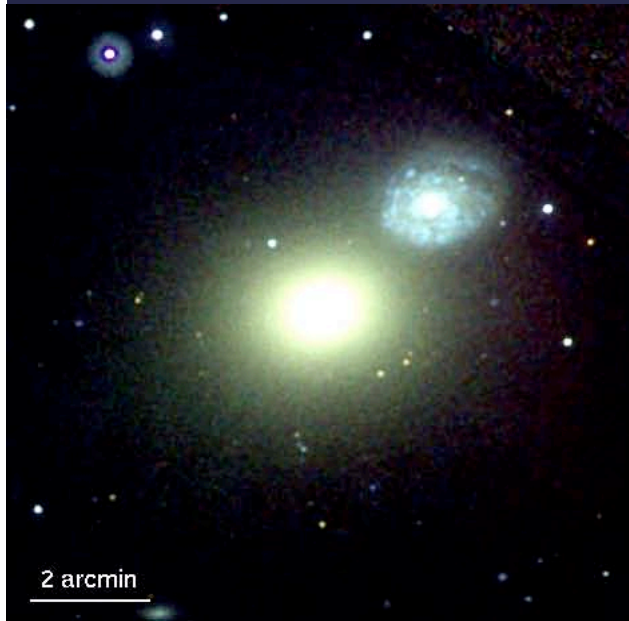
W1, M2, W2



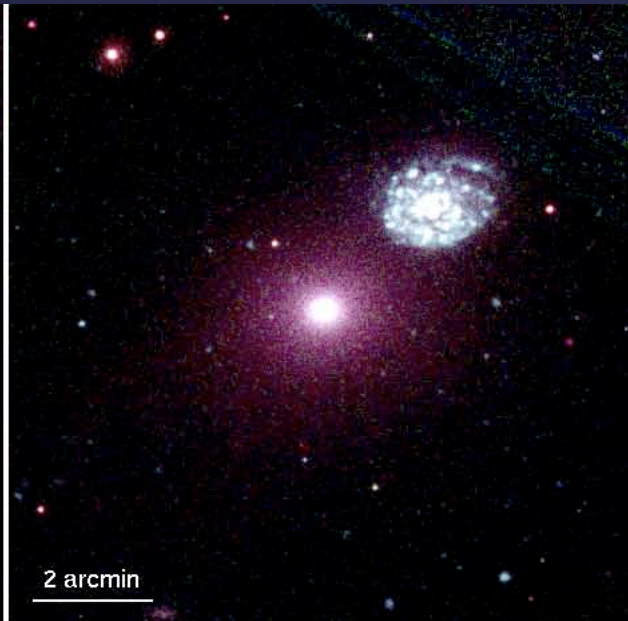
X-ray

Peculiar Galaxies

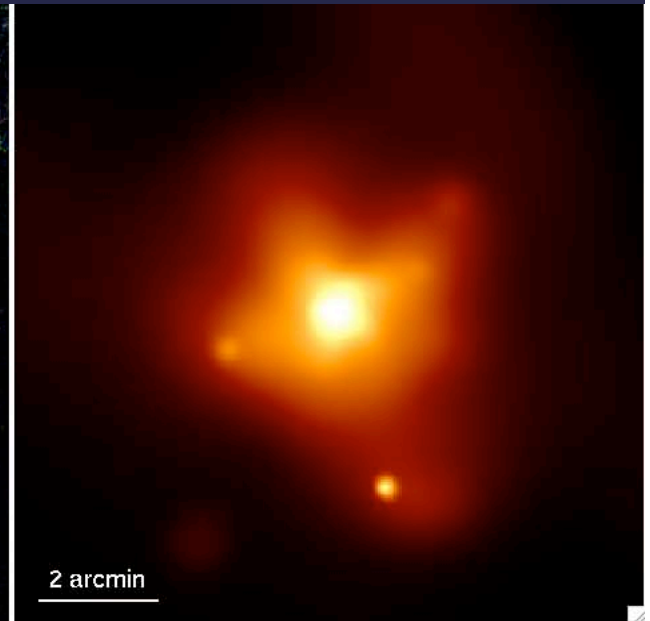
NGC 4649



V, B, U



W1, M2, W2



X-ray

Peculiar Galaxies

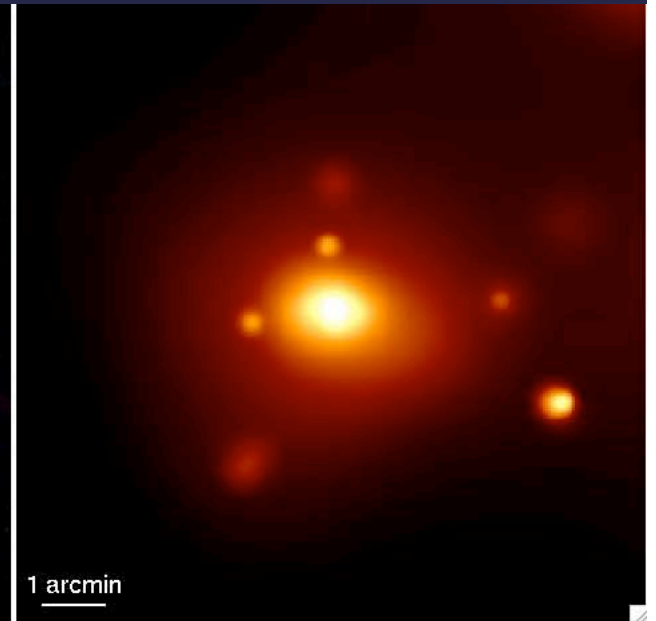
M104



V, B, U



W1, M2, W2



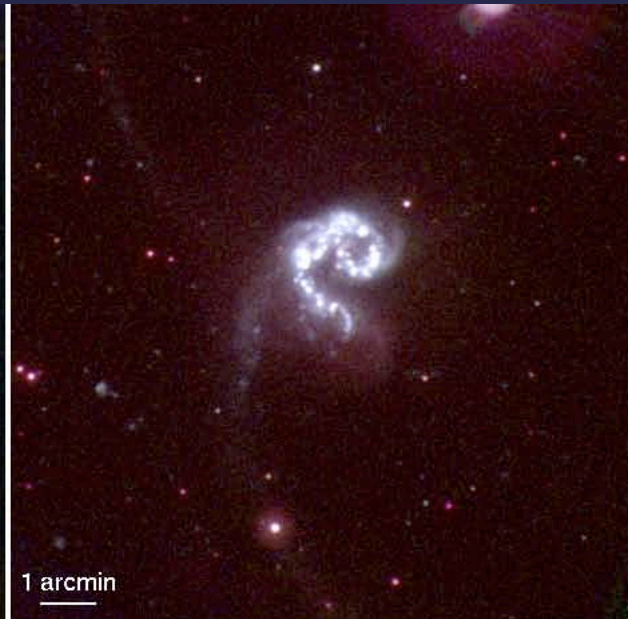
X-ray

Groups of Galaxies

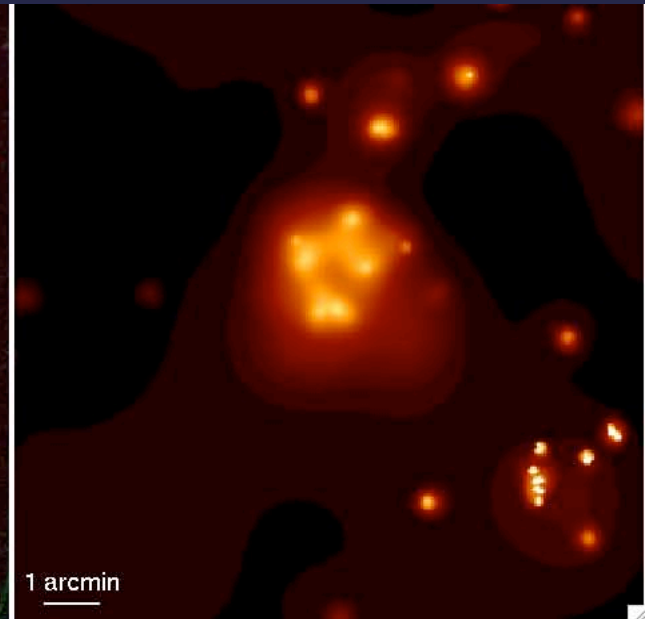
Arp 224



V, B, U



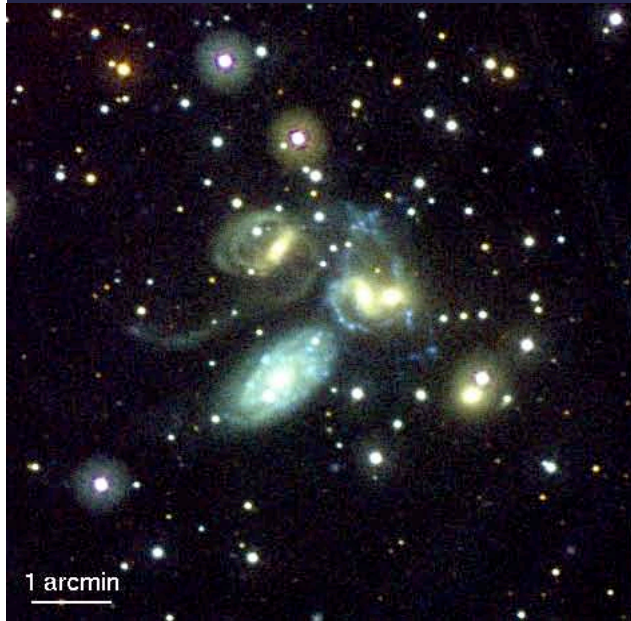
W1, M2, W2



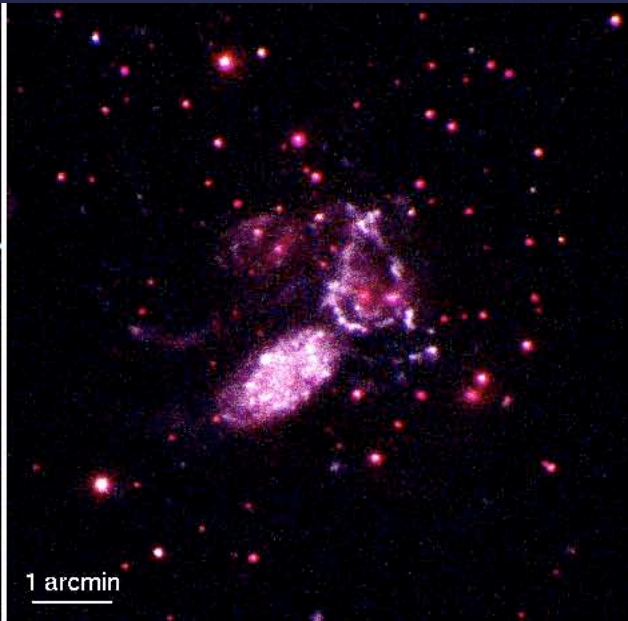
X-ray

Groups of Galaxies

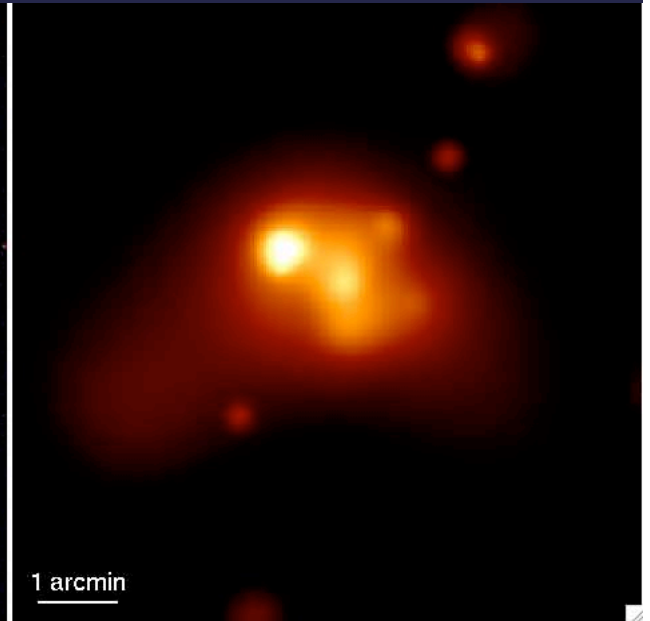
Arp 319



V, B, U



W1, M2, W2



X-ray