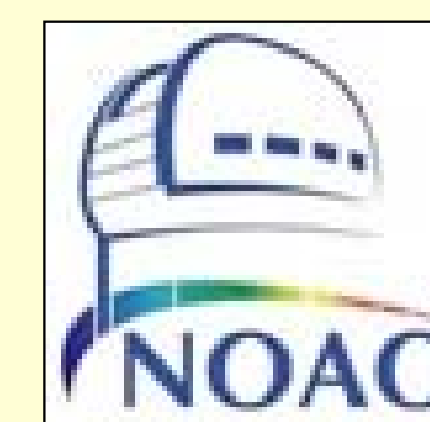# Resolved Galaxies in the Spitzer Survey of the Taurus Molecular Cloud

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Abstract: In the 44-square-degree Spitzer map of the main Taurus cloud obtained using the IRAC and MIPS cameras on the Spitzer Space Telescope, many resolved galaxies can be found. Simply locating this population is important, at the very least to distinguish candidate Taurus association members from resolved galaxies. We have identified the resolved galaxy population. We present multi-color thumbnail images of typical galaxies, and place them into the Hubble Sequence where possible. **Please direct questions to Tim Spuck at tspuck@mail.ocasd.org**.
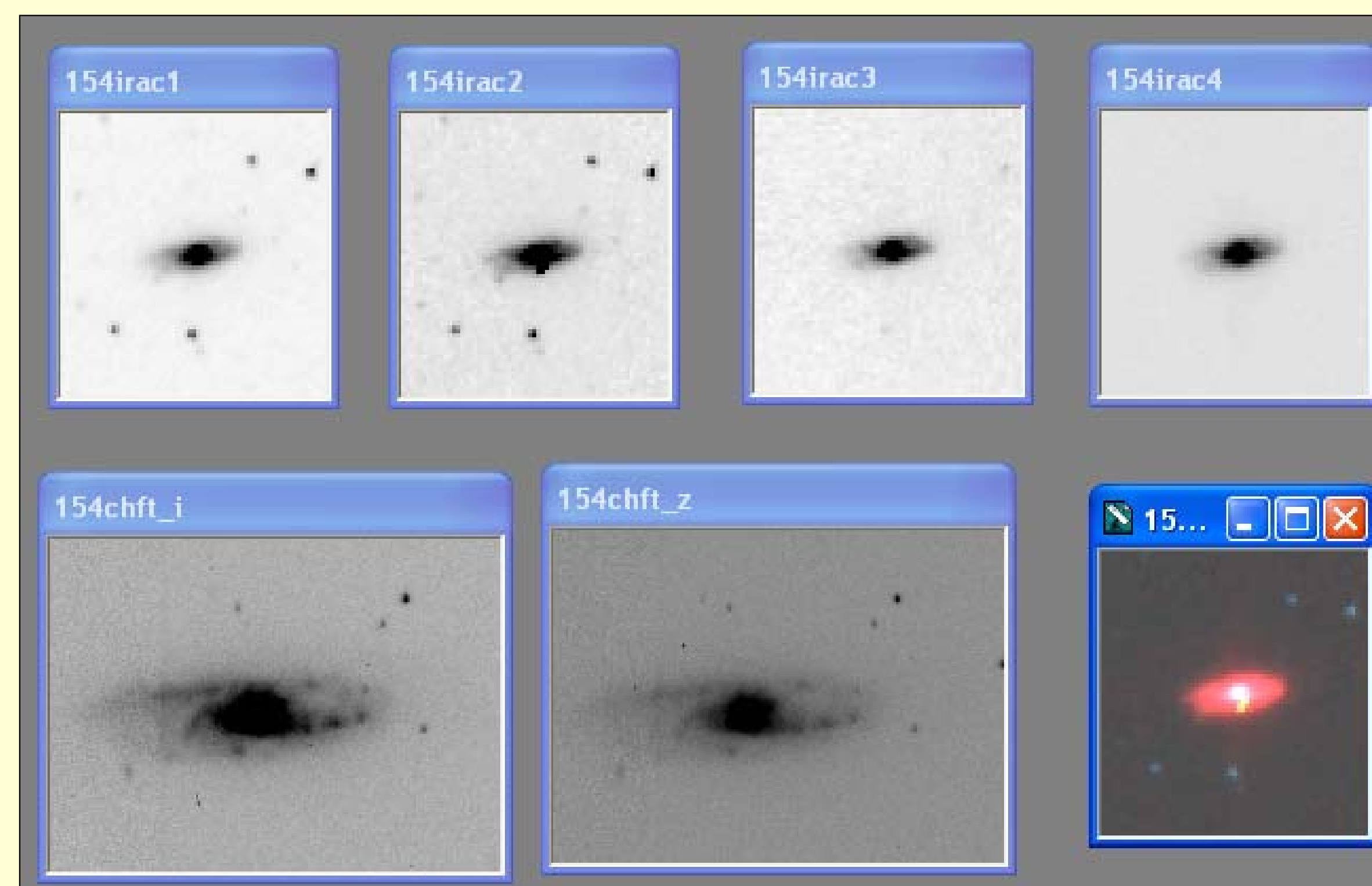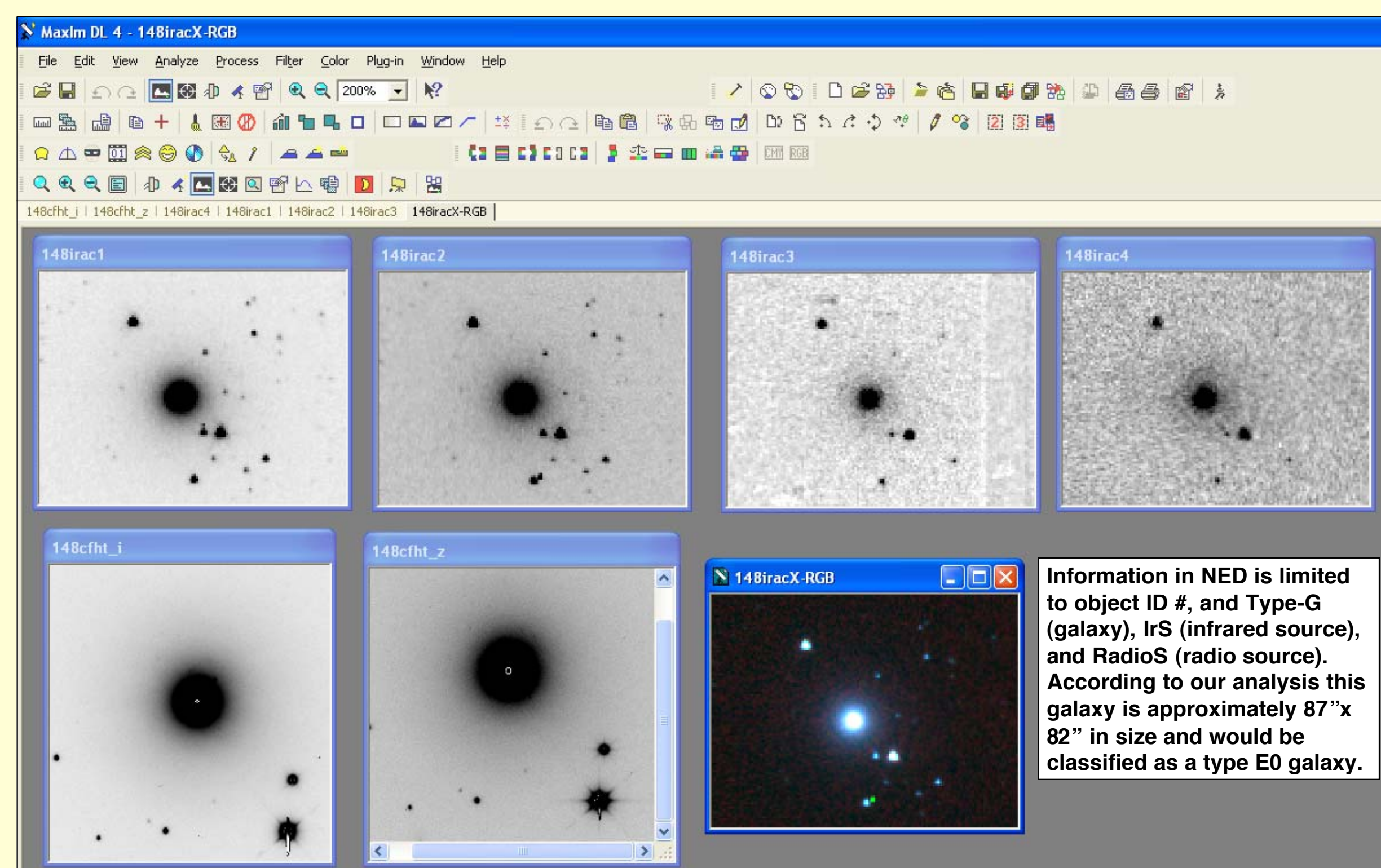
Data from the following telescopes are being used in this project.

- Spitzer Space Telescope - IRAC and MIPS
- 3.6 M Canadian France Hawaii Telescope (CFHT)
- Two Micron All Sky Survey (2MASS)
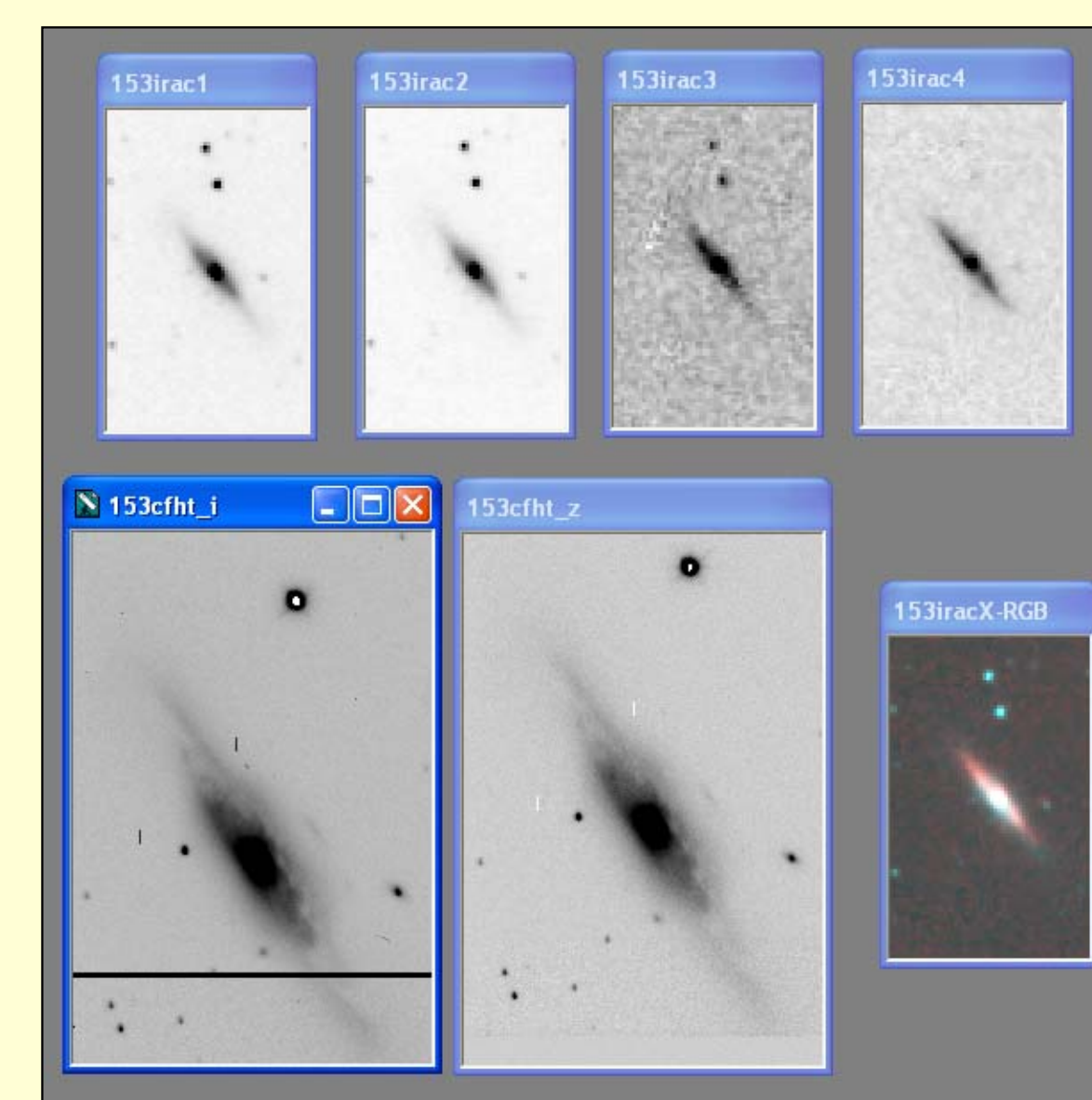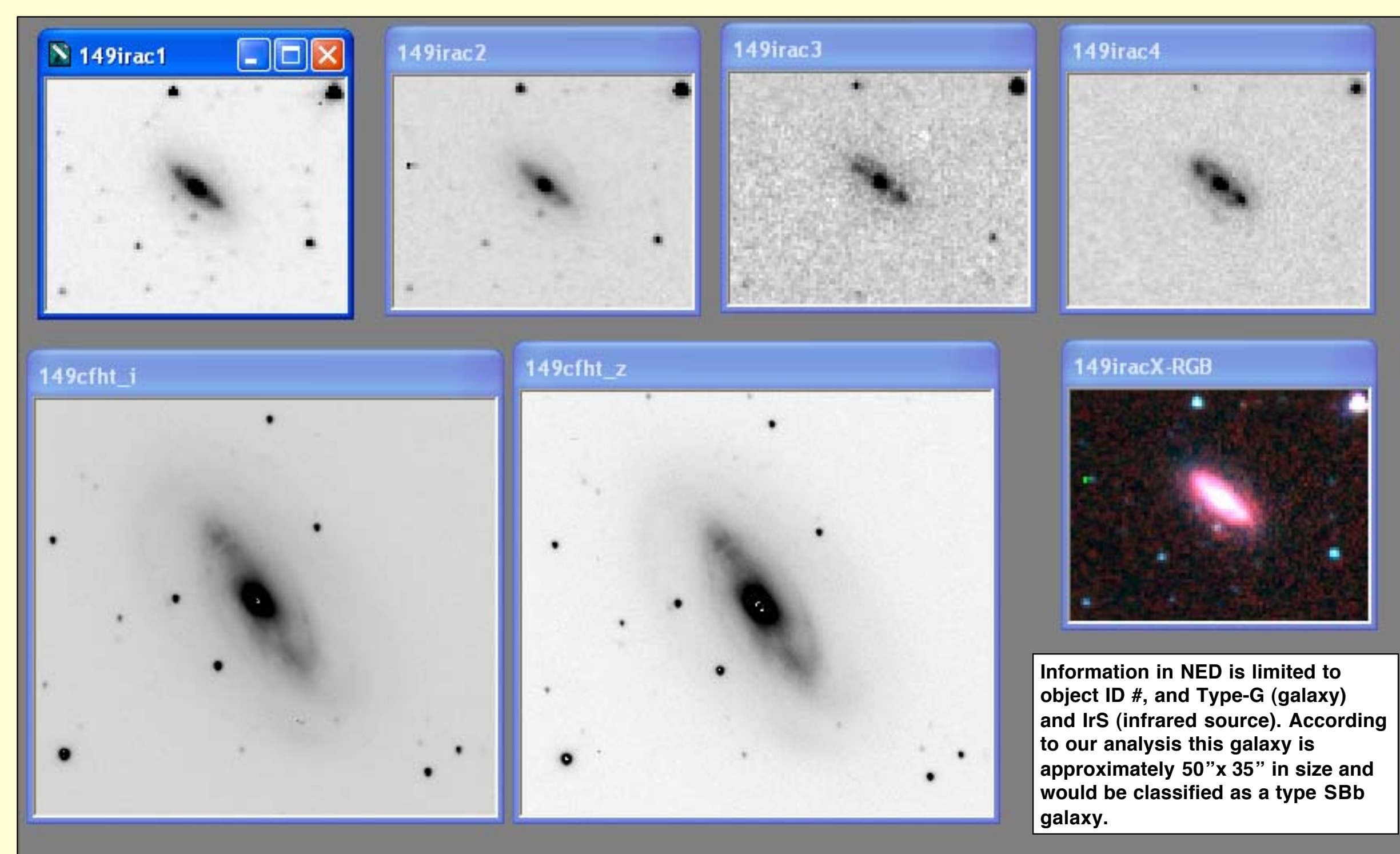- Sloan Digital Sky Survey (SDSS)

Methods

Images were analyzed using Spitzer developed MOPEX software. Using the crop feature in MOPEX thumbnails were created. The thumbnails were then aligned and color composite images were created using MaxIm DL. A "near position" search was conducted using the NASA/IPAC Extragalactic Database to identify known information about the objects.

Wide Field Color Composite (above) – All color composite images were generated using IRAC channels 1, 2, and 4 (1-Blue, 2 – Green, and 4 Red). The image above is one small section (90' x 90') of the Taurus Molecular Cloud observed by the Spitzer Space Telescope.

In our initial analysis of the images we have identified over 200 galaxies in the 44-square-degree Spitzer map of the main Taurus cloud. Most are unclassified or not identified at all in NED. In the future we will be adding SDSS images and conducting further analysis to identify smaller galaxies we missed during the initial process.

Information in NED is limited to object ID #, and Type-G (galaxy), IrS (infrared source), and RadioS (radio source). According to our analysis this galaxy is approximately 87"x 82" in size and would be classified as a type E0 galaxy.

Information in NED is limited to object ID #, and Type-G (galaxy) and IrS (infrared source). According to our analysis this galaxy is approximately 50"x 35" in size and would be classified as a type SBb galaxy.

Object 154 (above)- Information in NED is limited to object ID #, and Type-G (galaxy) and IrS (infrared source), and classification S (spiral galaxy). According to our analysis this galaxy is approximately 40"x 16" in size and would be classified as a type Sb galaxy.

Object 153 (above)- Information in NED is limited to object ID #, and Type-G (galaxy) and IrS (infrared source). According to our analysis this galaxy is approximately 55"x 18" in size and would be classified as a type Sb galaxy.

According to our analysis this galaxy is approximately 114" x 64" in size and would be classified as a type SBc galaxy.