Star Formation in Massive Low Surface Brightness Galaxies

Karen O'Neil
NRAO - Green Bank
High total light, size and/or high mass $H(0)$ significantly far from Freeman value.
<20 new ML5BGS
• 107 with previously unknown redshifts
• 180 detections:
  • HI survey of 300 LSB galaxies

New Survey:

2004: Number doubled (~35)
Before 2004: ~18 known

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How Many Are There?
- Less amorphous than less massive LSBGs
- Distinct but diffuse spiral arms
- Prominent central bulge

General appearance:

Optical
New Survey:  

HI Content
O'Neill & Schinnerer

HSB Galaxies
LSB Galaxies
MLSB Galaxies
MLSB Galaxies

CO
UGC 06614

Radio Continuum
Need to learn more

- Not likely for all (ongoing SF)
- Some (UGC614) may be formed thru mergers

Old galaxies?

- Some ongoing SF in outer disks
- SFR similar to HSB galaxies
- Blue through red disk colors
- Some AGN
- Wide range of properties

Summary
- Simultaneous Imaging available
  - Increase numbers x100s!
- SKA Surveys
  - Future
    - High resolution (e.g. EVLA)
    - HI/Continuum Maps of M15B galaxies
      - Wide bandwidth desired (higher volume)
      - Large aperture (lsb sensitivity) needed
- HI surveys to find/identify M15BES
  - Next 5+ years

The (≥ 6Hz) Radio Future:

Now what?