

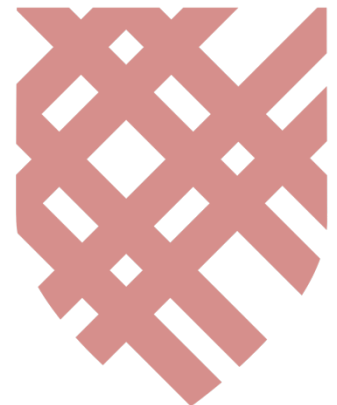
EXPANDING THE SHIELD SAMPLE

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JOHN M. CANNON¹

THE SHIELD II TEAM

¹Macalester College



ALFALFA:

Arecibo Legacy Fast ALFA

Large collecting area, small beam size*, high sensitivity

Over 30,000 cataloged sources

Designed to populate the faint end of the HI mass function in the local universe over a cosmologically significant volume

SHIELD II:

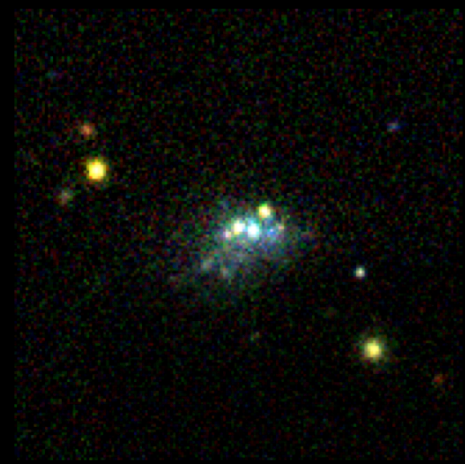
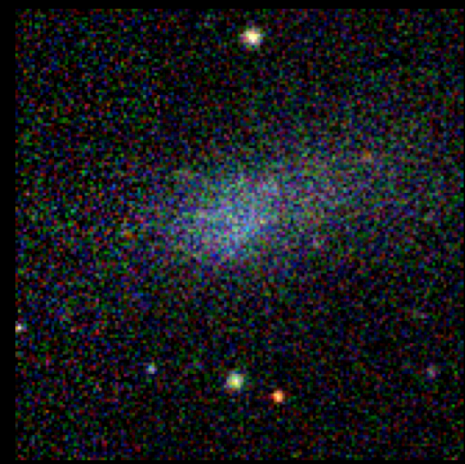
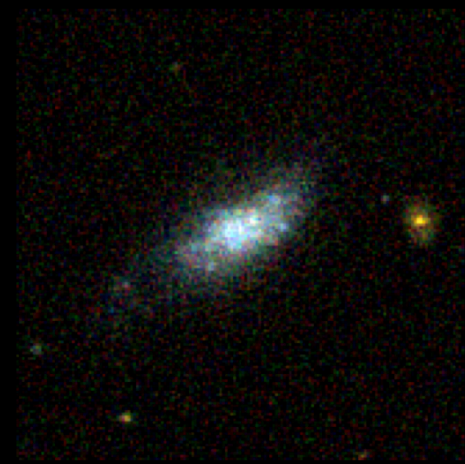
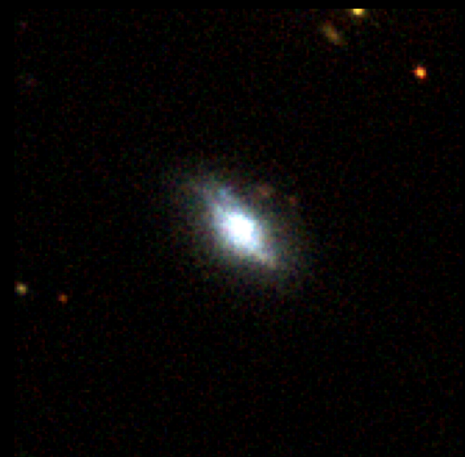
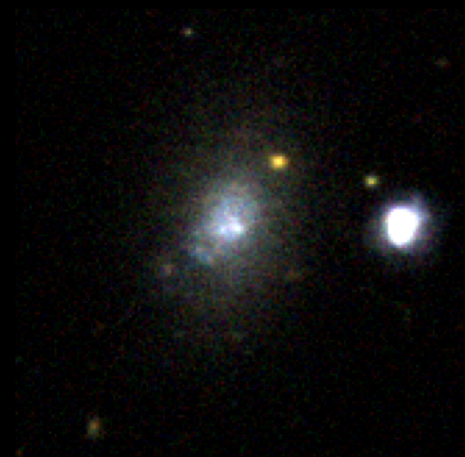
Survey of HI in Extremely Low-mass Dwarfs II

Multiwavelength, detailed study of the properties of systems discovered/cataloged by ALFALFA with extremely small HI mass reservoirs (HI masses in the 10^6 - 10^7 M_{\odot} range)

Original SHIELD sample includes 12 systems

SHIELD II includes 22 additional systems

Full SHIELD sample now includes 82 total systems



**SHIELD attempts to answer
three fundamental science
questions:**

**What properties change
between mini-halos, very
low-mass dwarf galaxies,
and more massive systems?**

**Is the star formation
process different in very
low-mass dwarf galaxies?**

**What fraction of the mass in
very low-mass dwarf
galaxies is baryonic?**

MULTIWAVELENGTH DATA SUITES

- **Radio (21 cm)**
 - Westerbork Synthesis Radio Telescope (WSRT)
 - Arecibo Observatory
- **Optical**
 - Hubble Space Telescope (HST)
 - Sloan Digital Sky Survey (SDSS)
- **Far Ultraviolet (FUV)**
 - Galaxy Evolution Explorer (GALEX)

WSRT

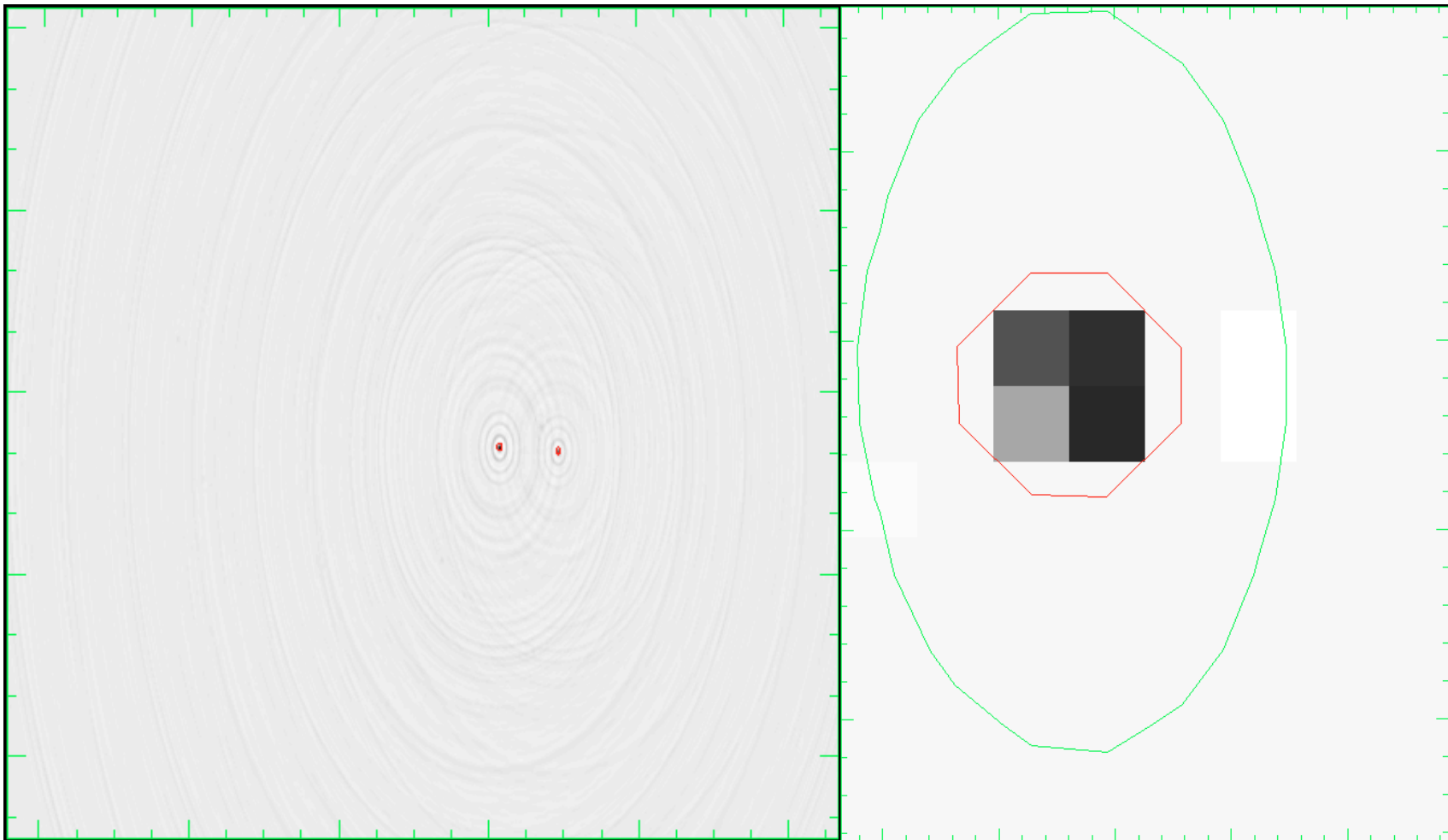
Westerbork Synthesis Radio Telescope



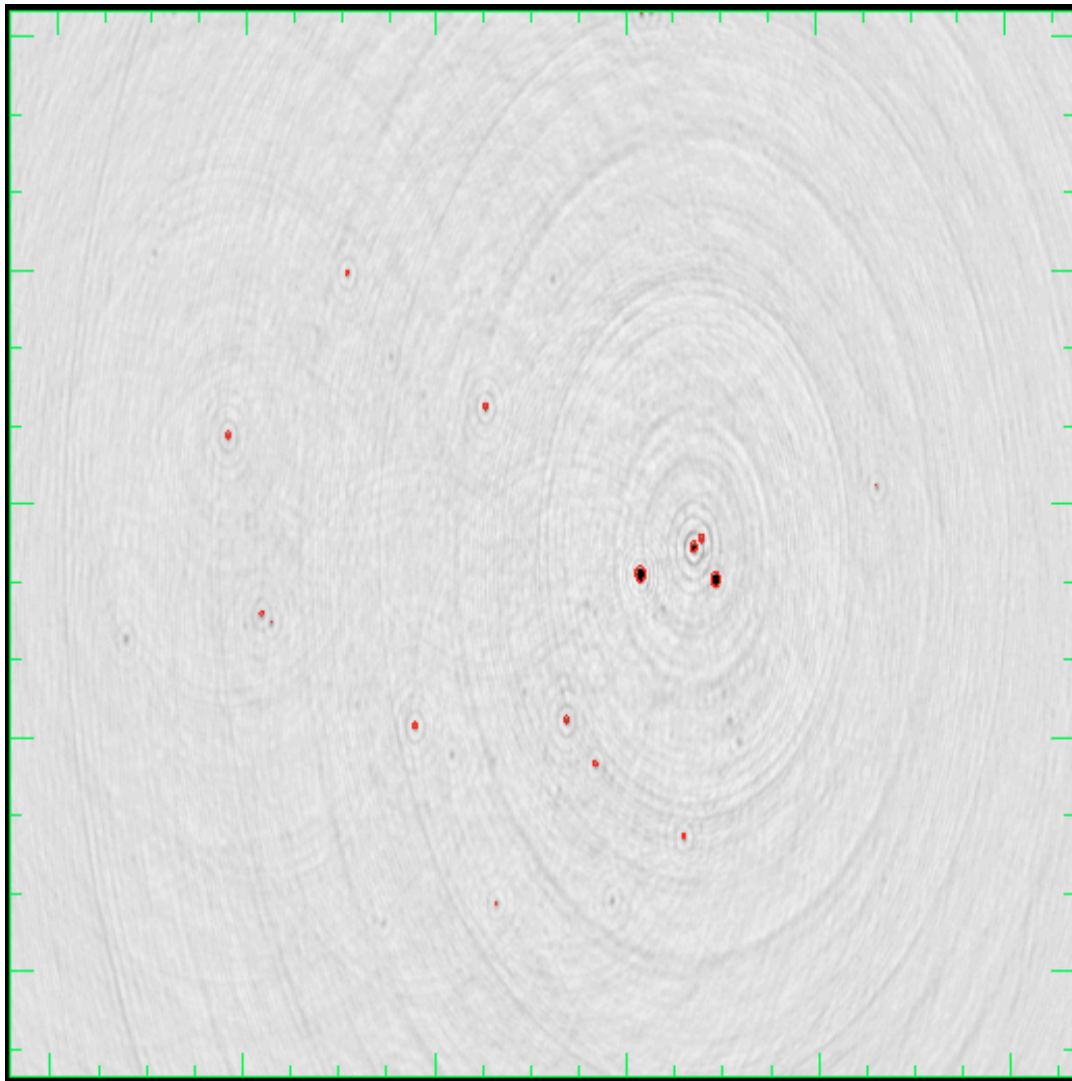
REDUCTION: MIRIAD

flag RFI

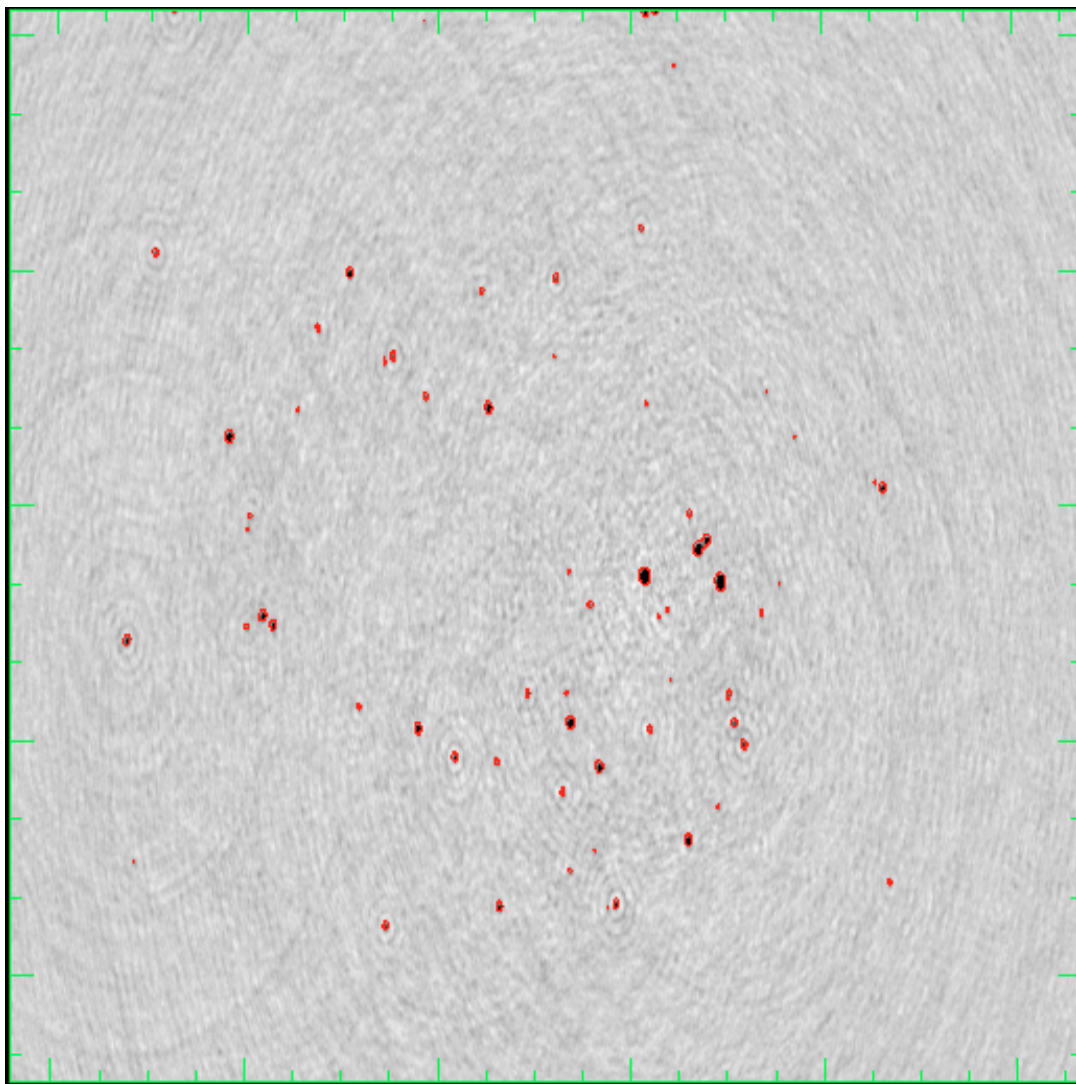
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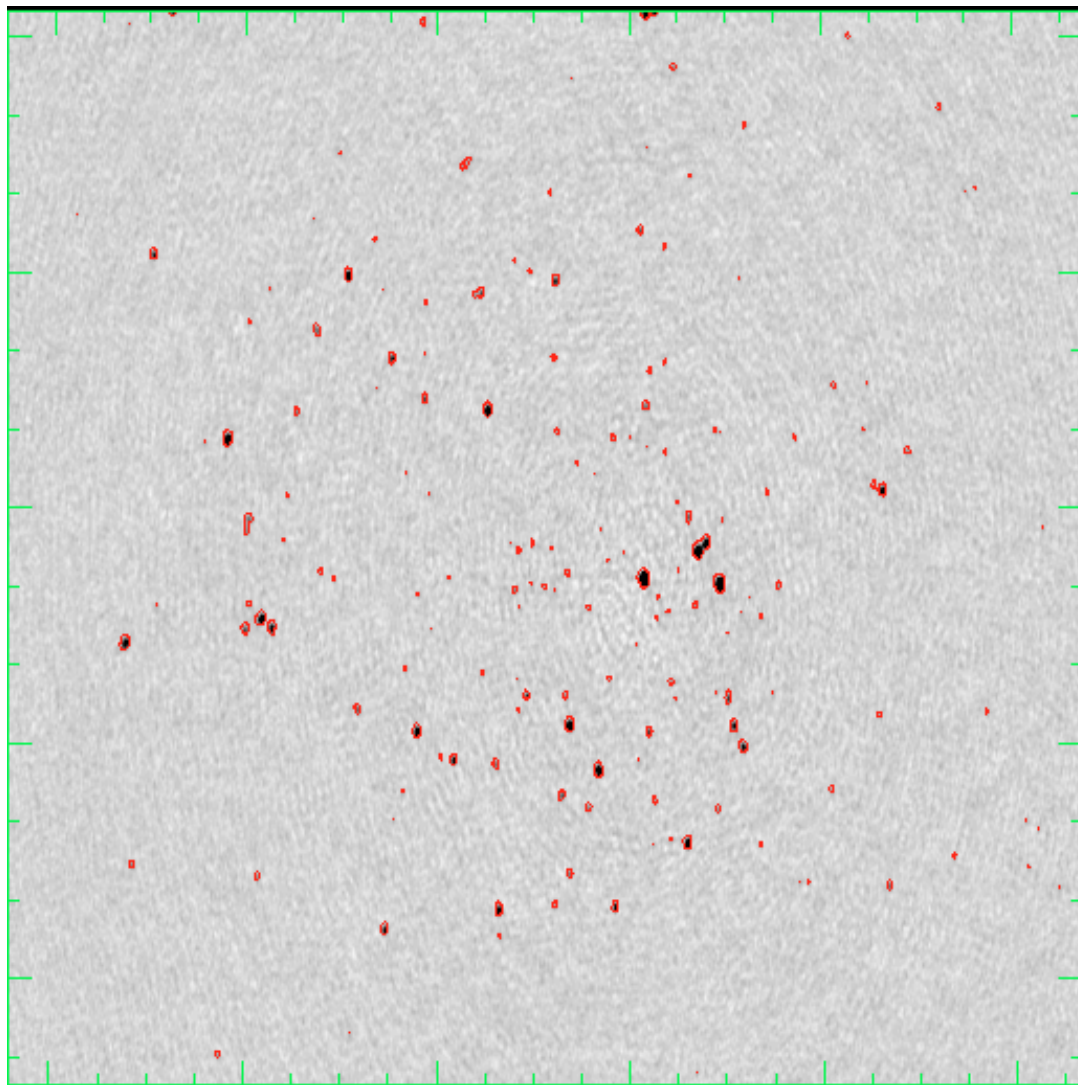
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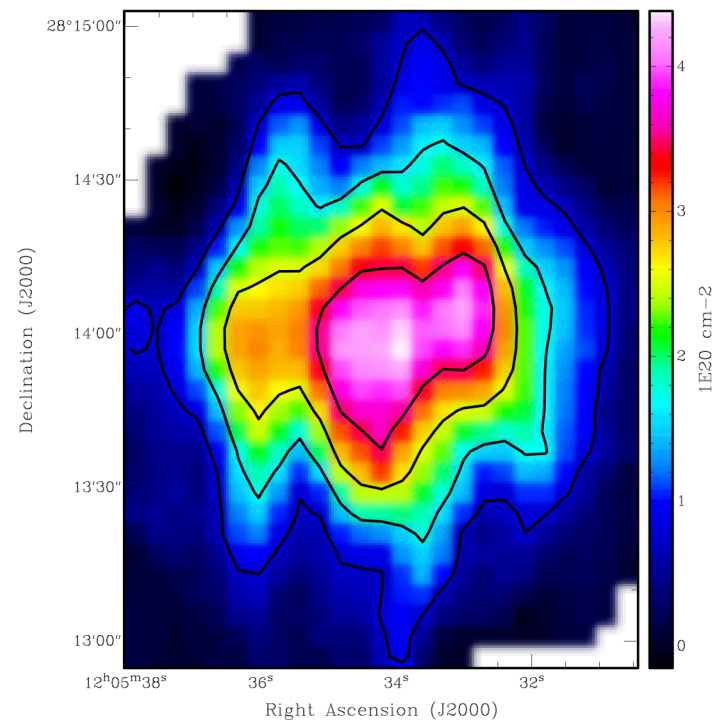
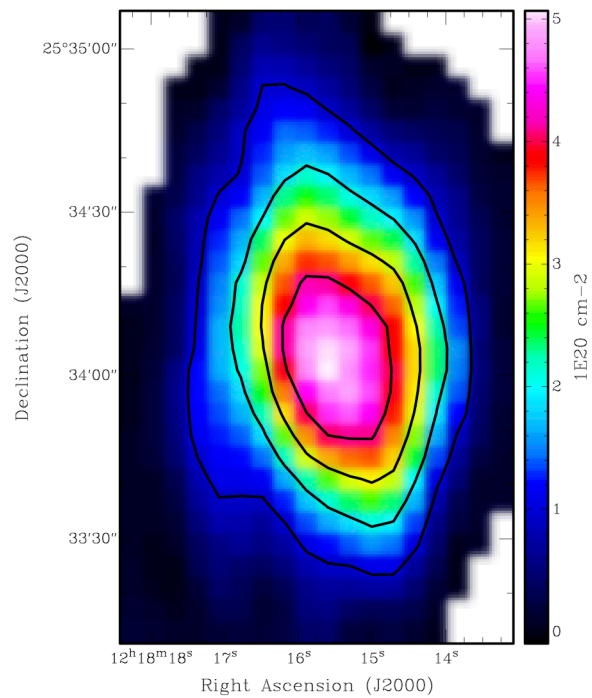
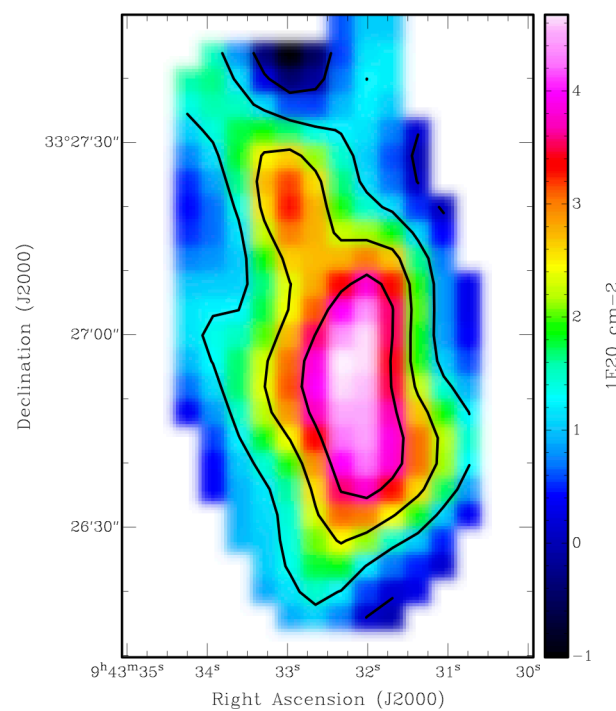
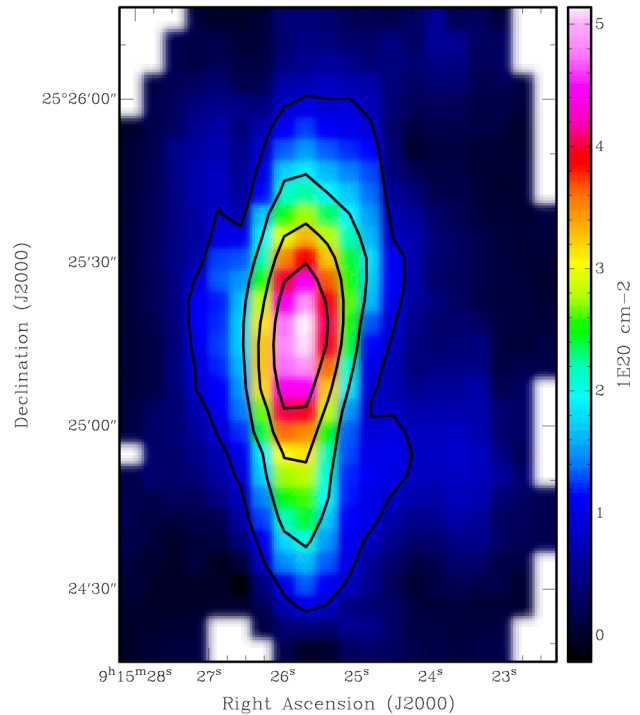


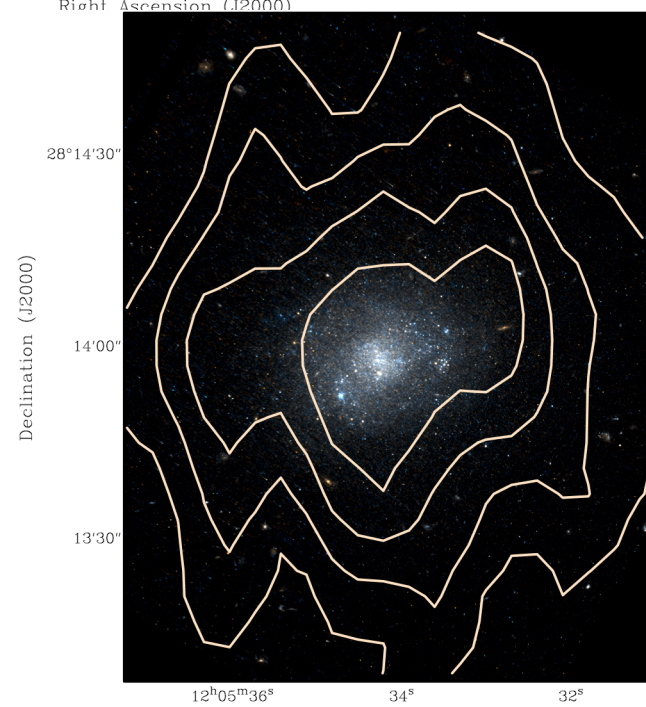
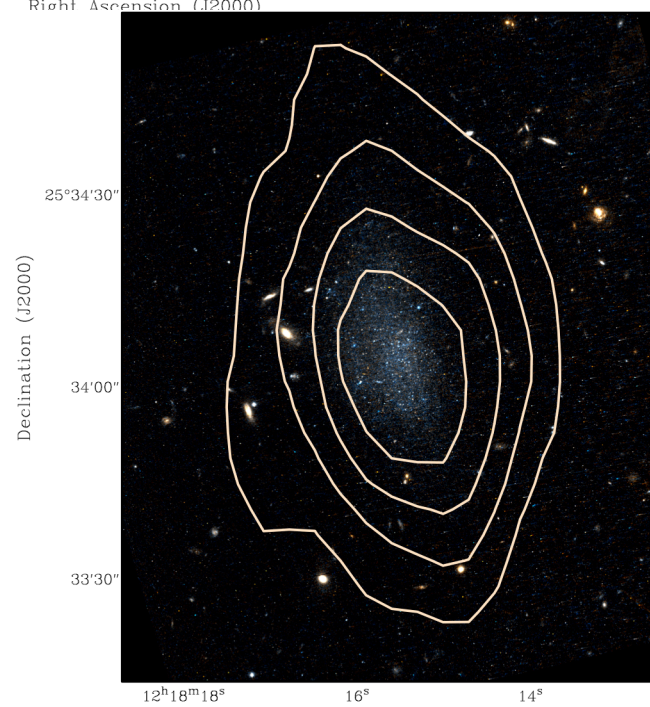
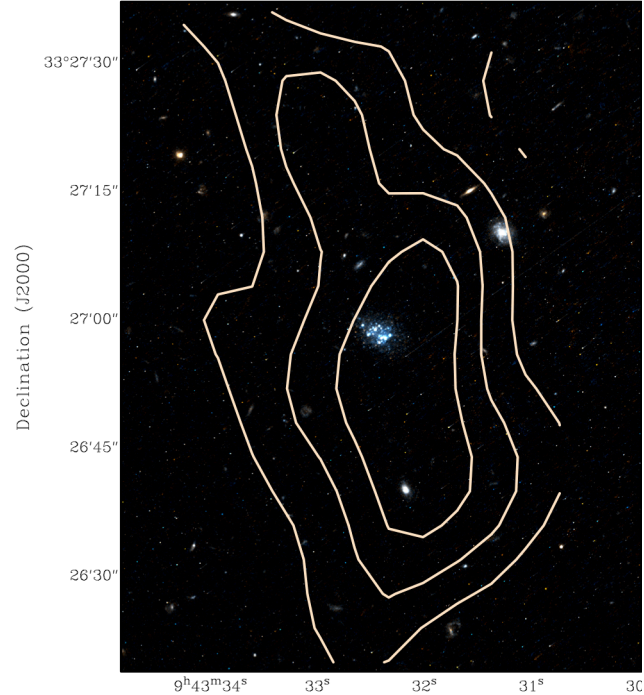
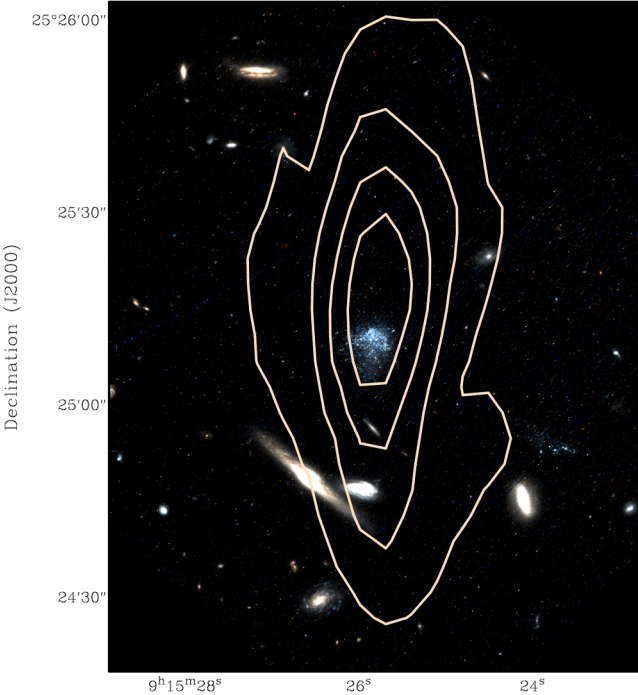
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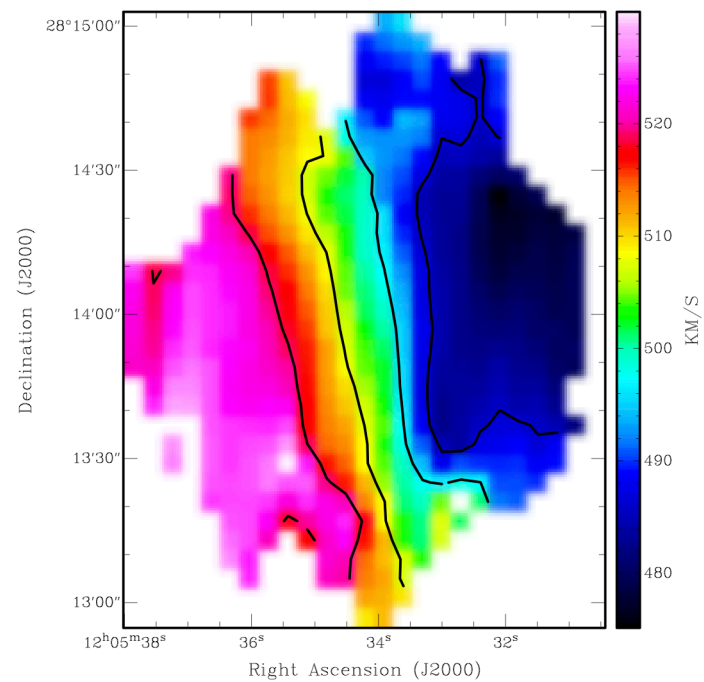
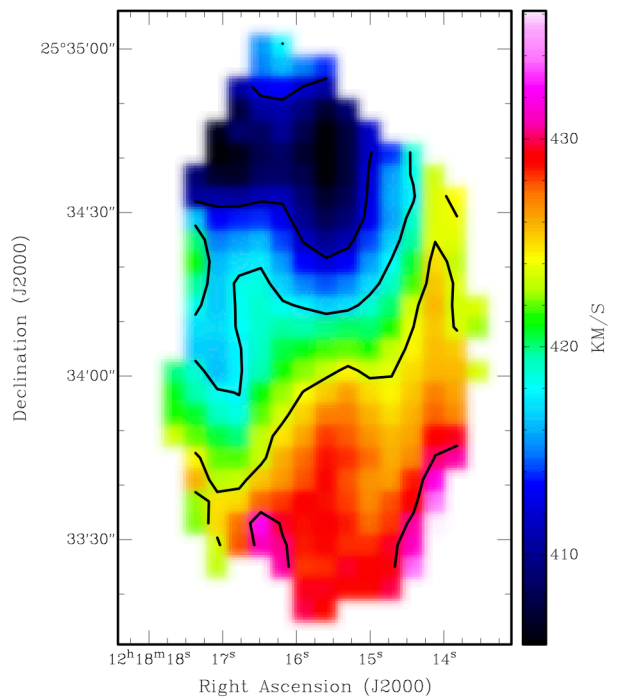
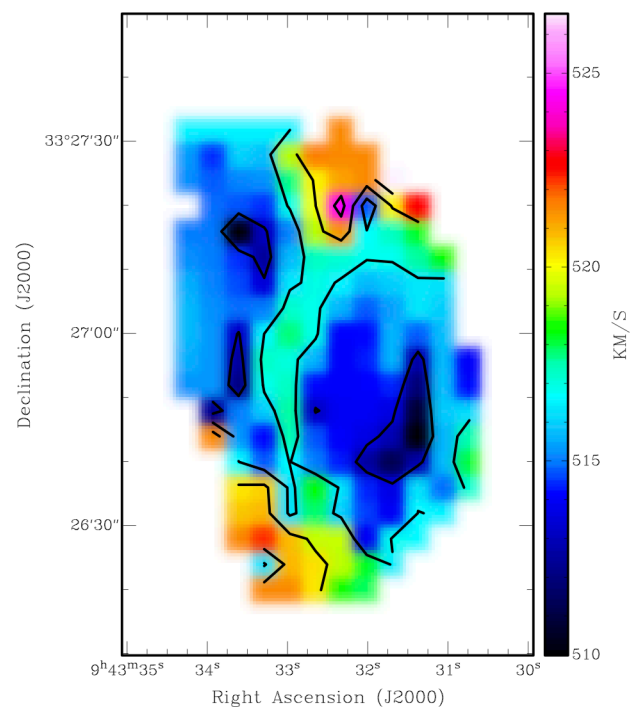
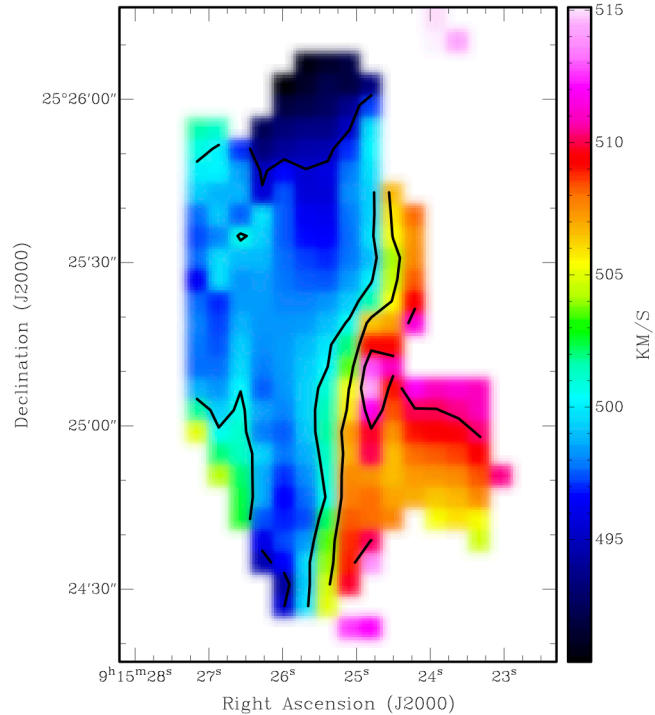


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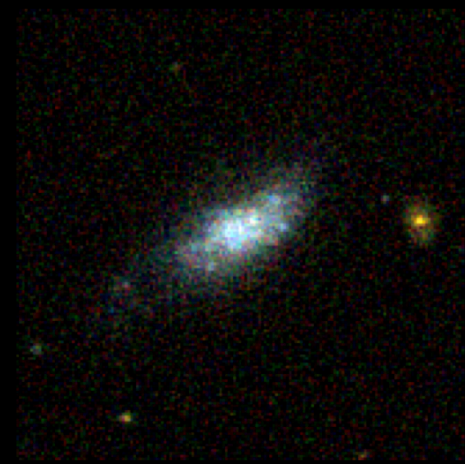
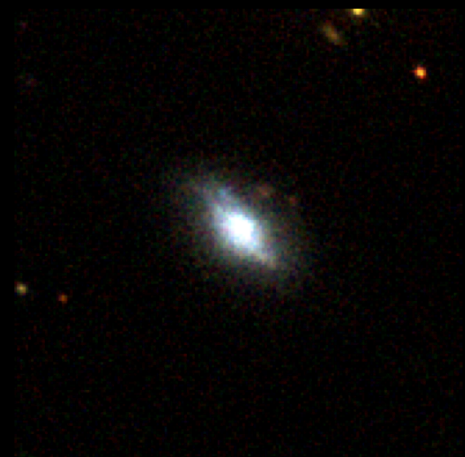
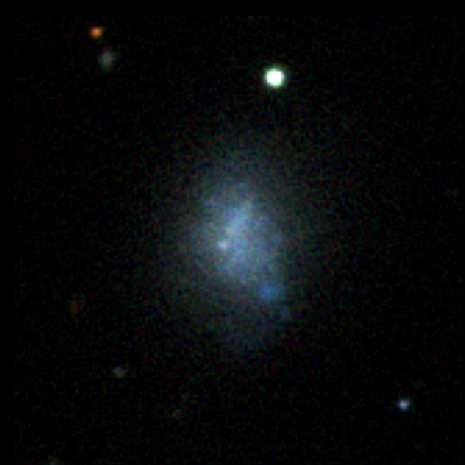


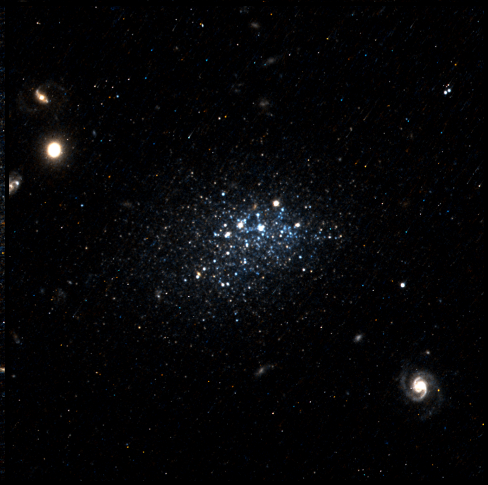
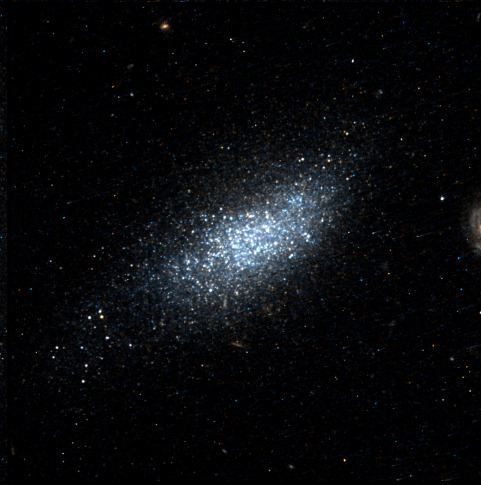
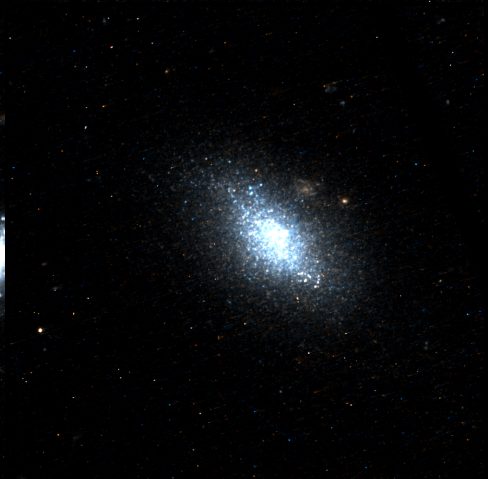
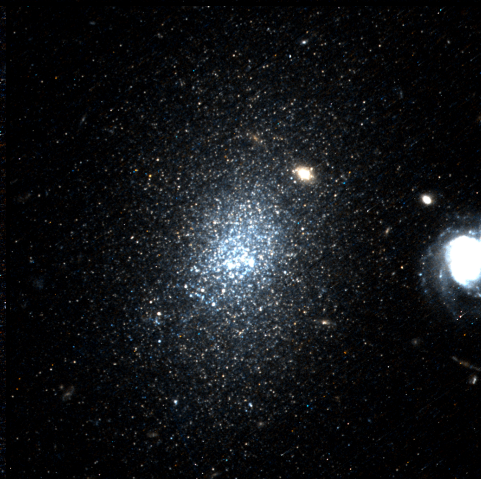
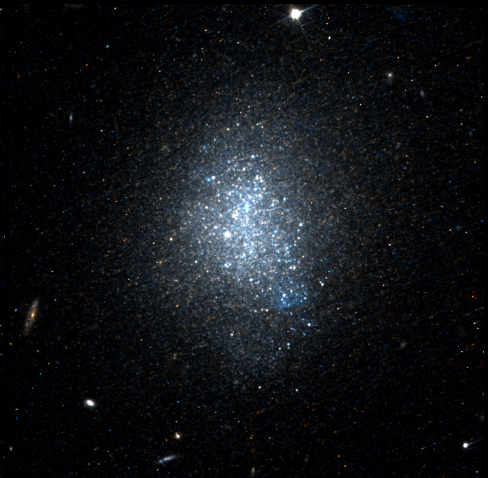
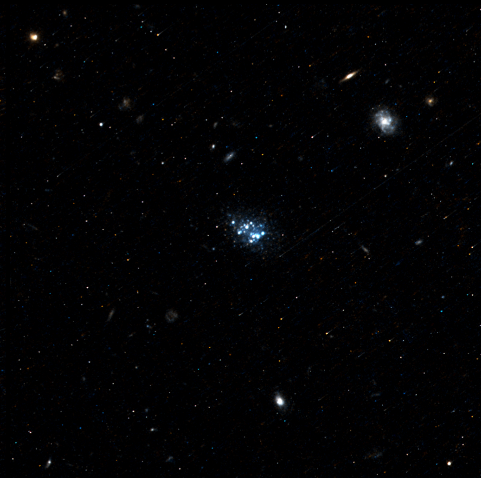
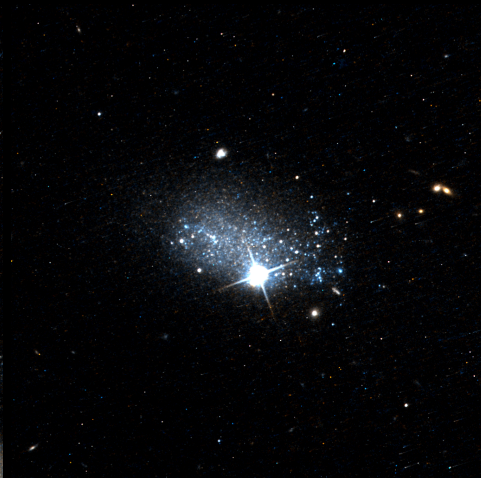
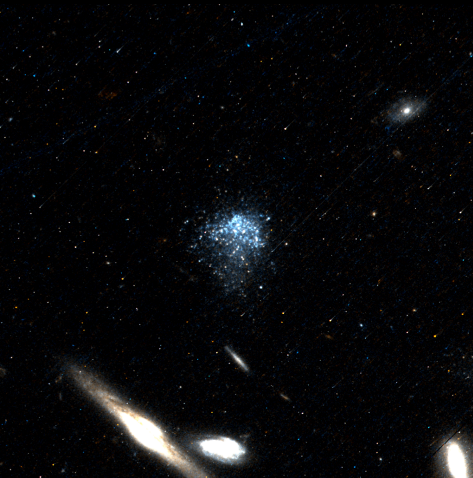


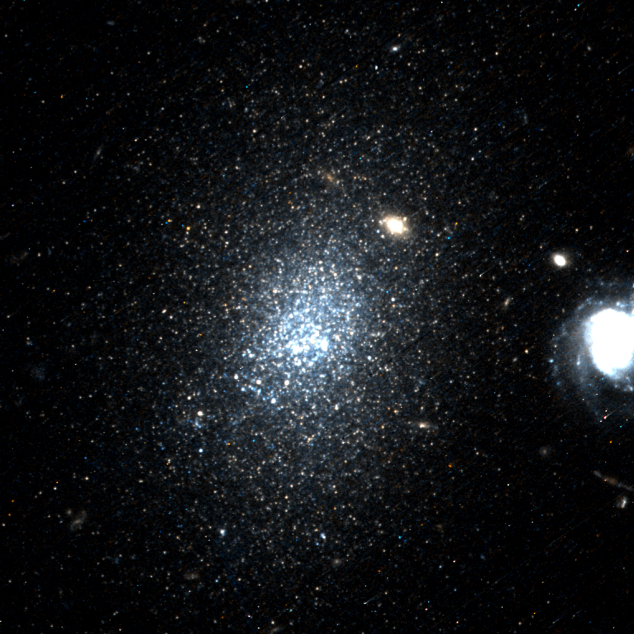


HST

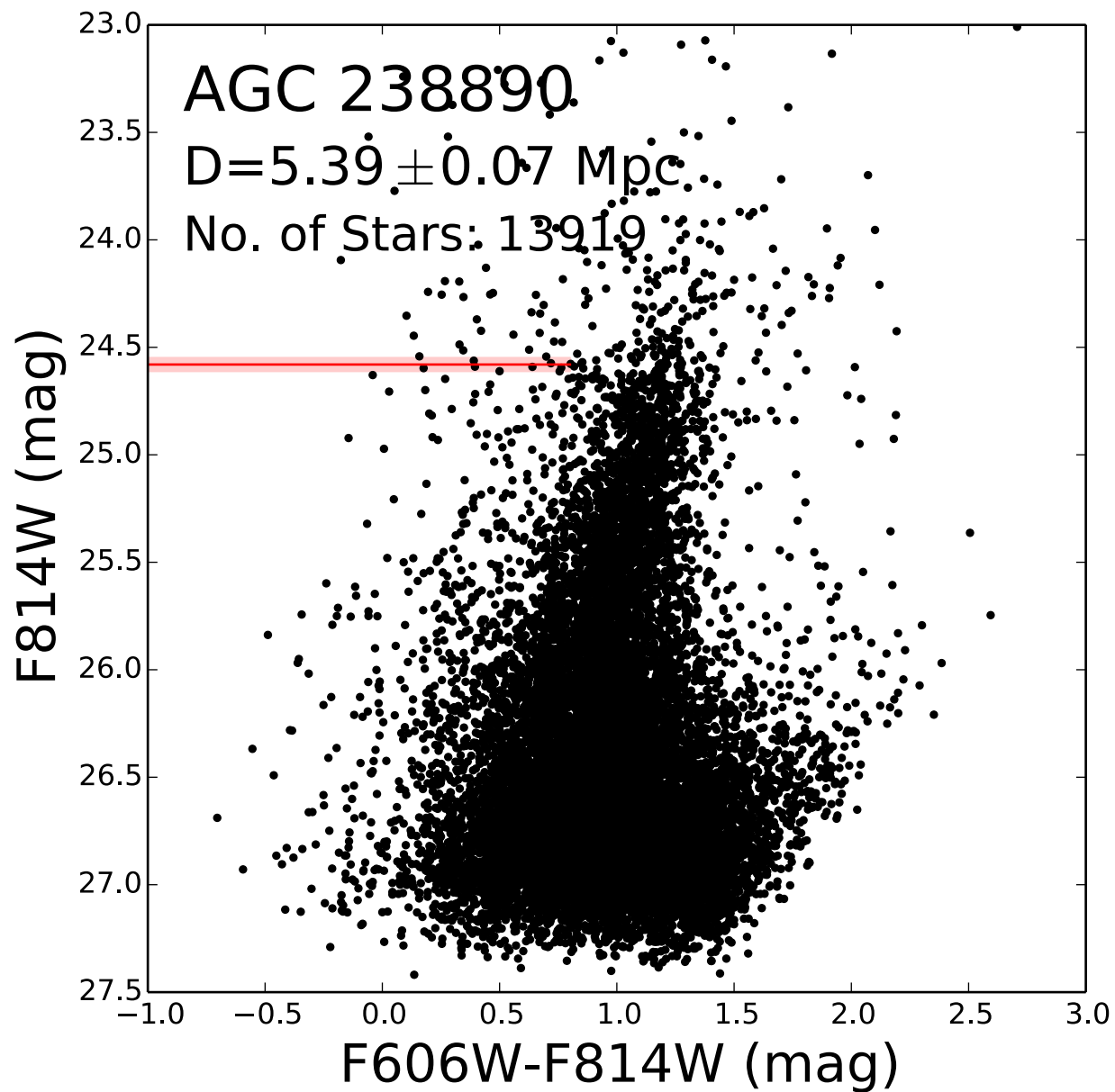
Hubble Space Telescope





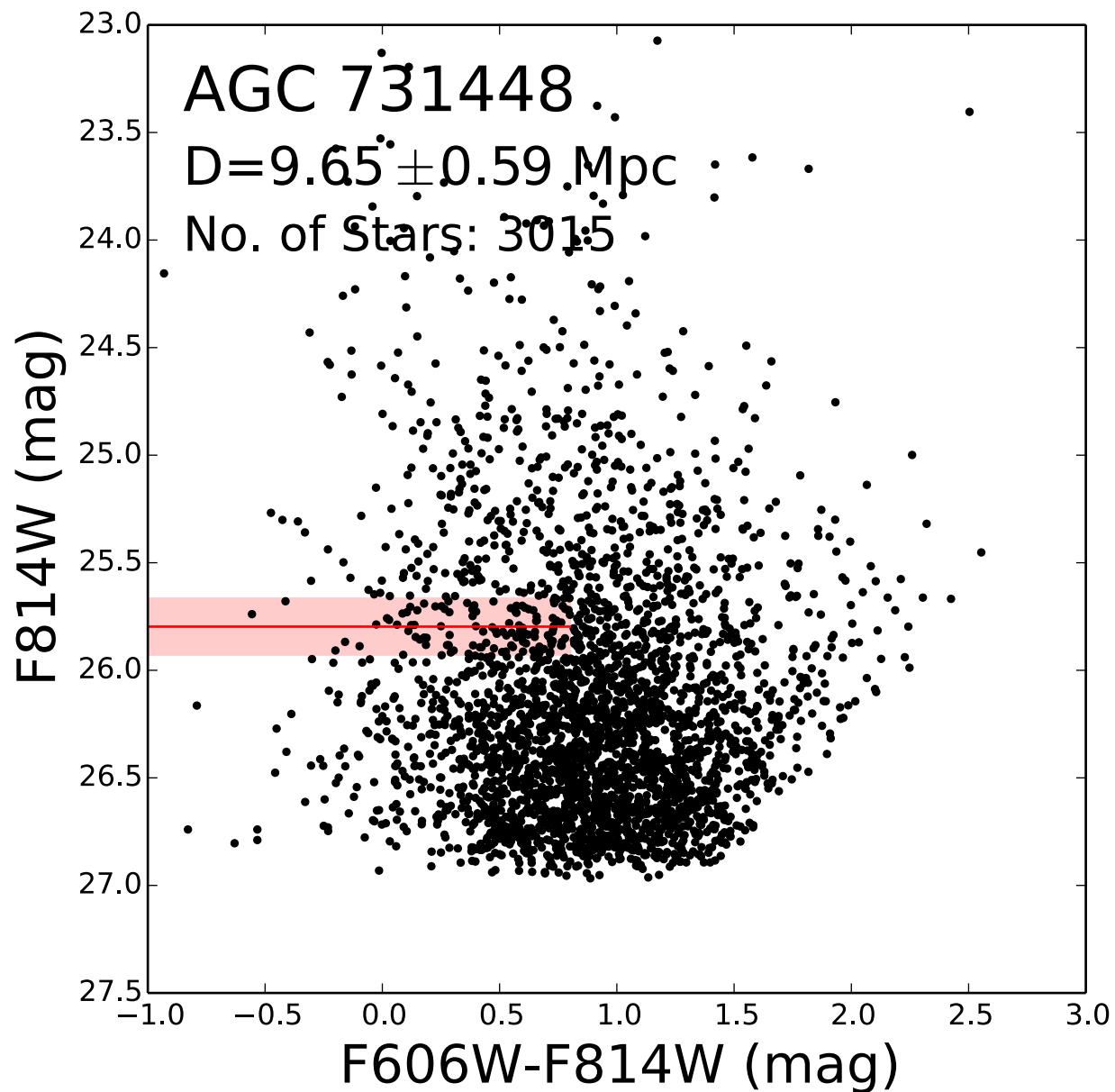


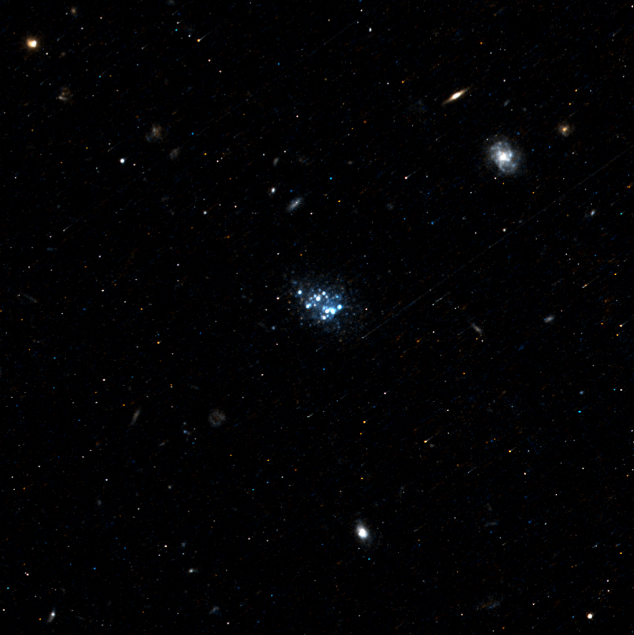
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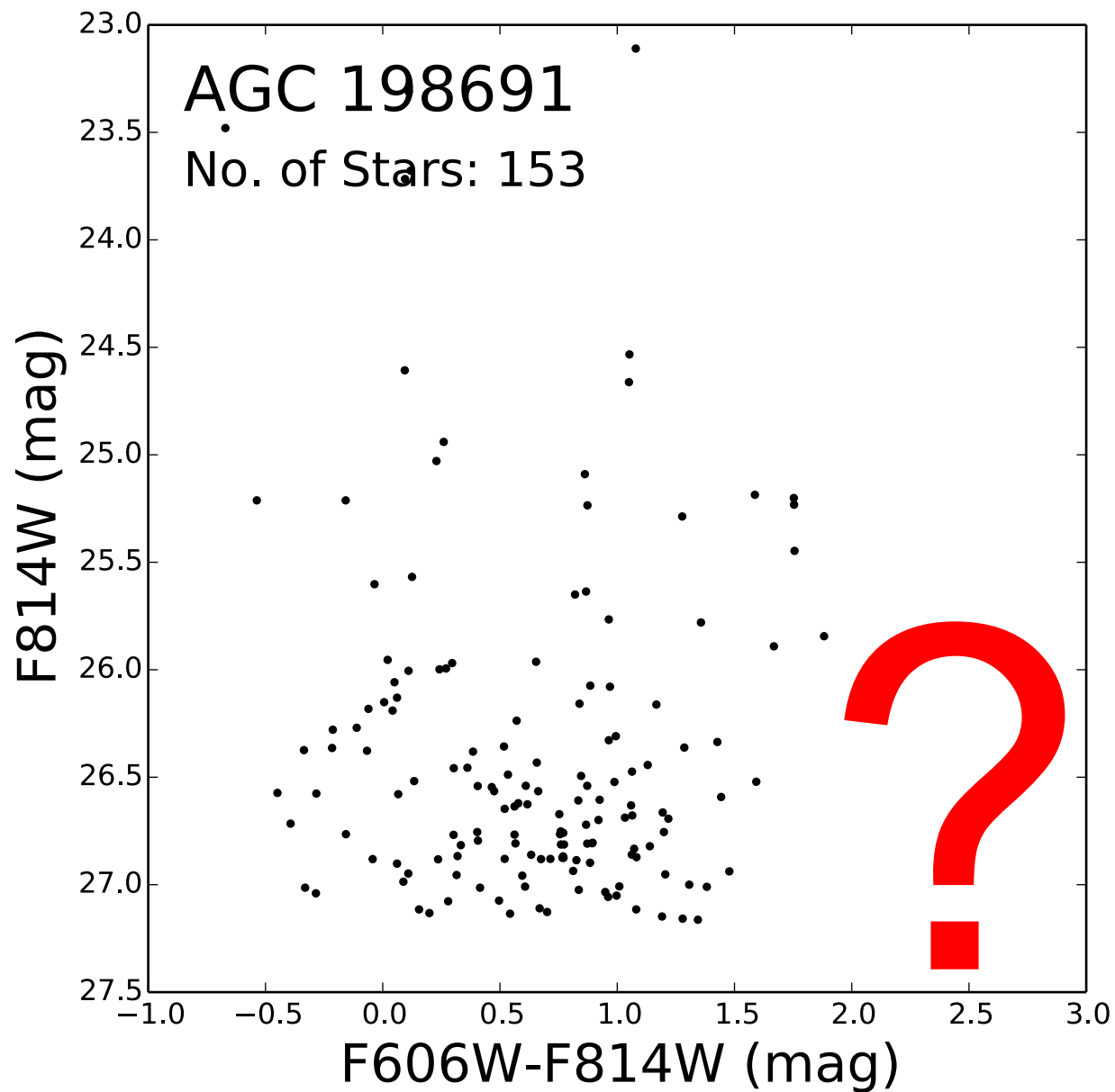


TRGB





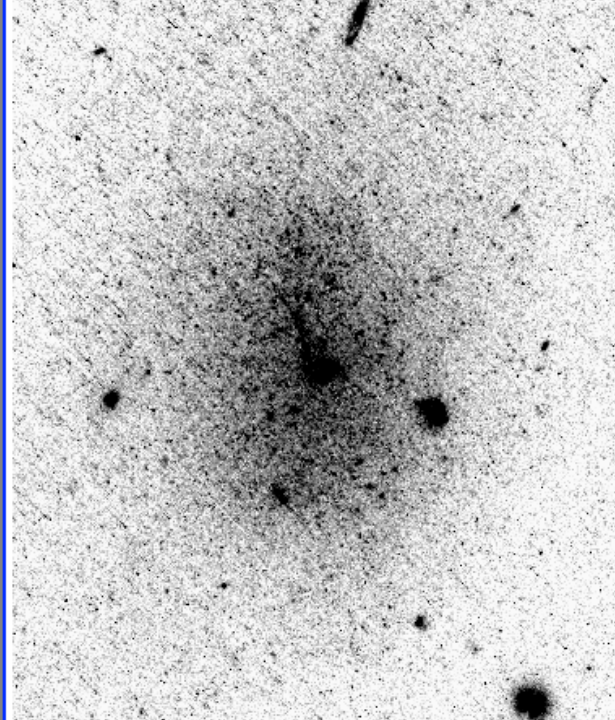
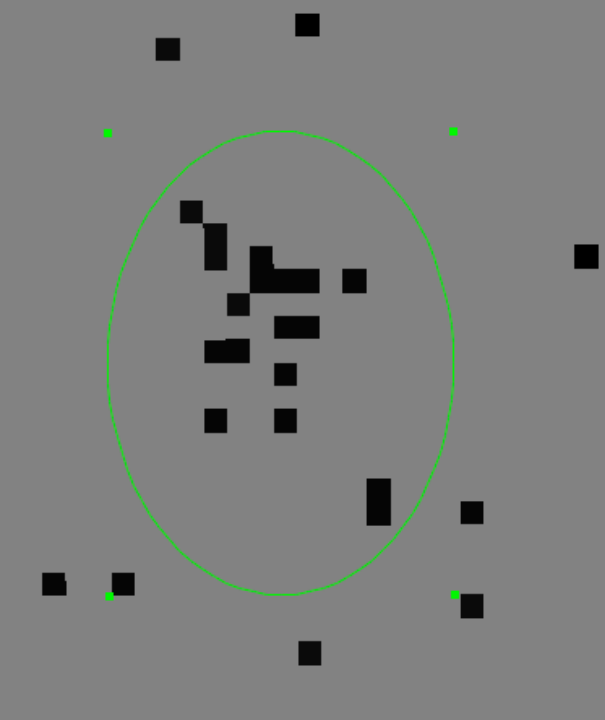
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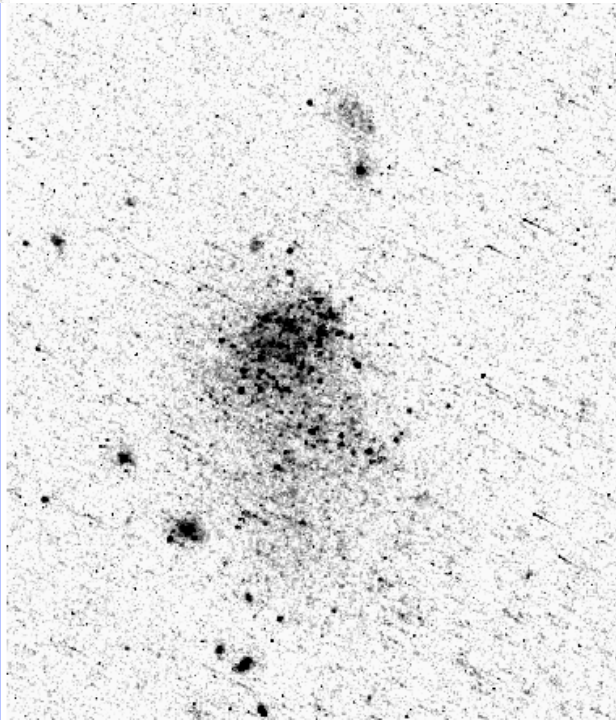
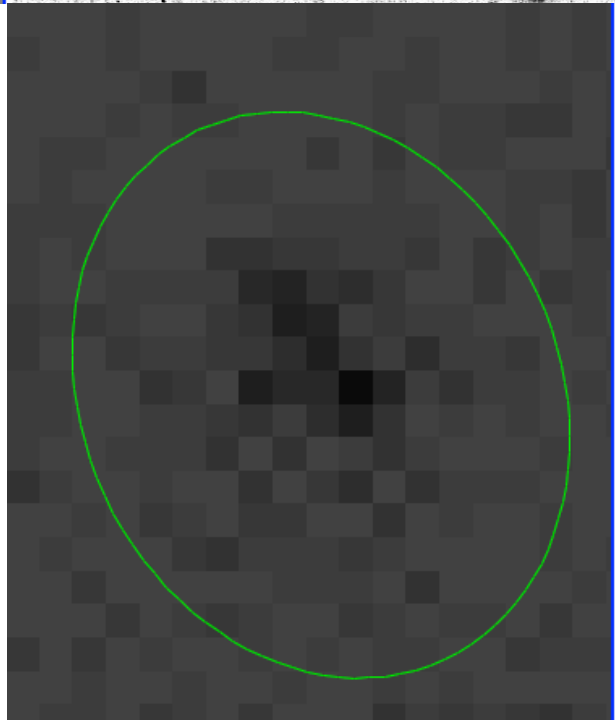


GALEX

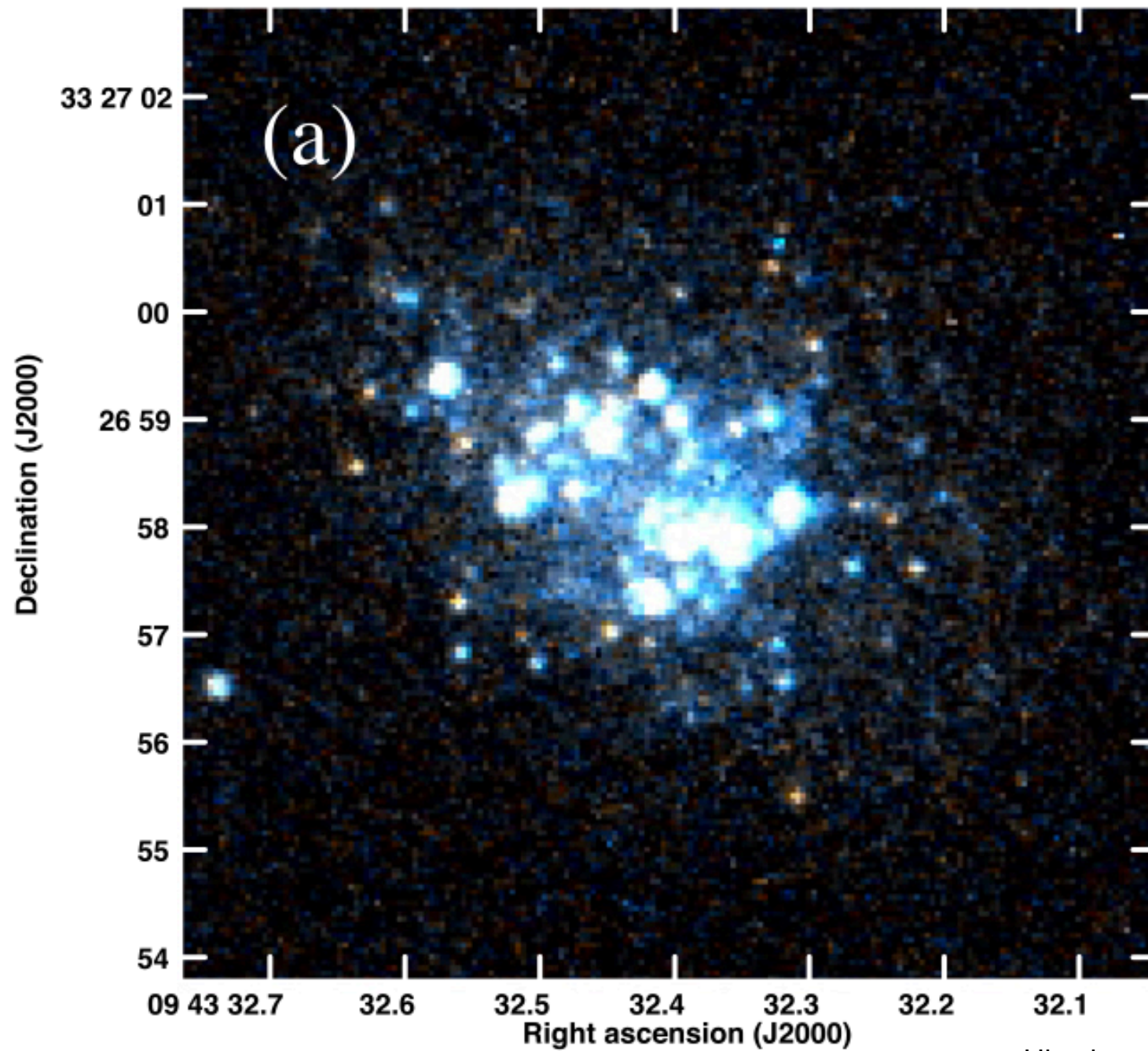
Galaxy Evolution Explorer

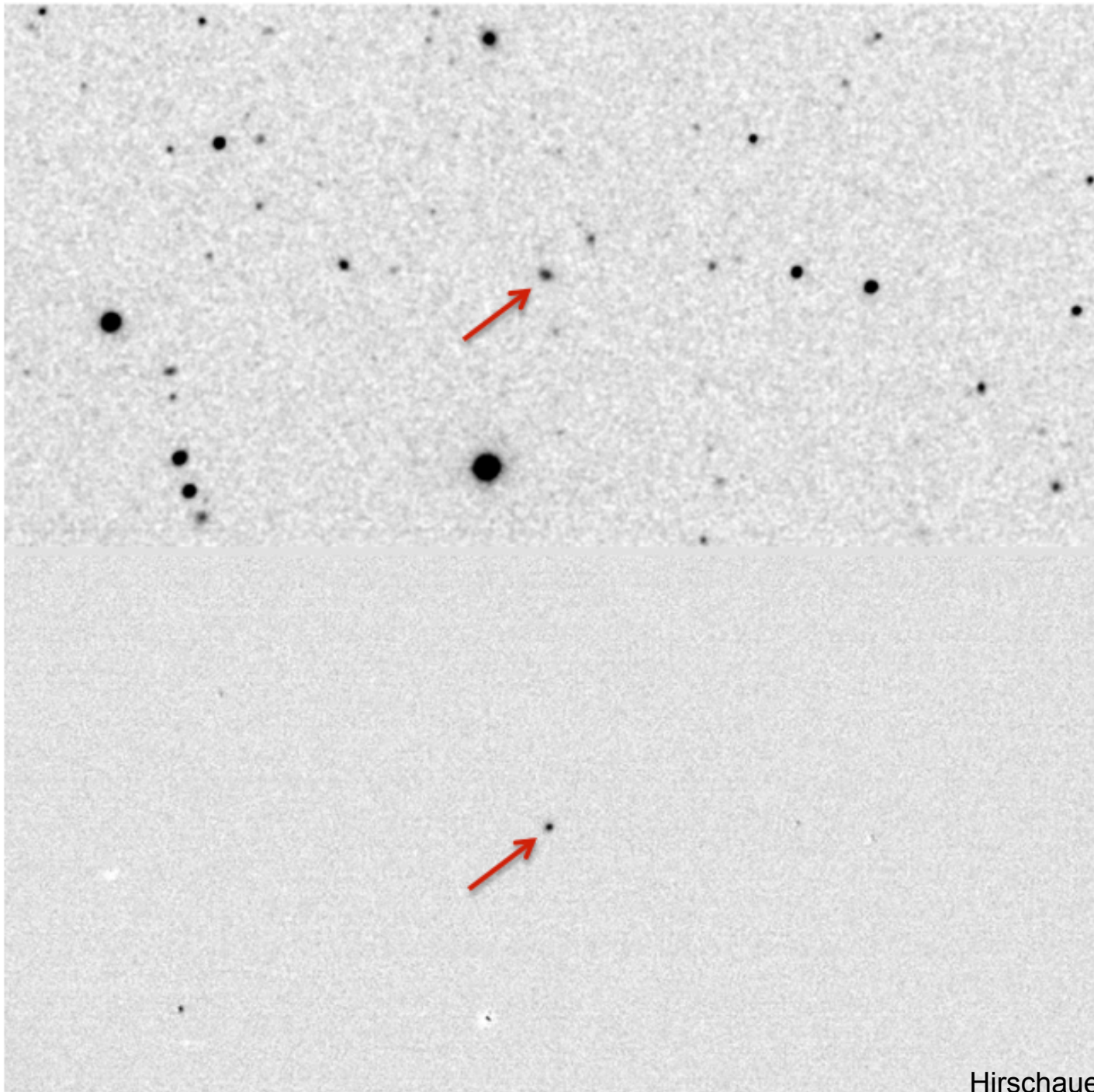


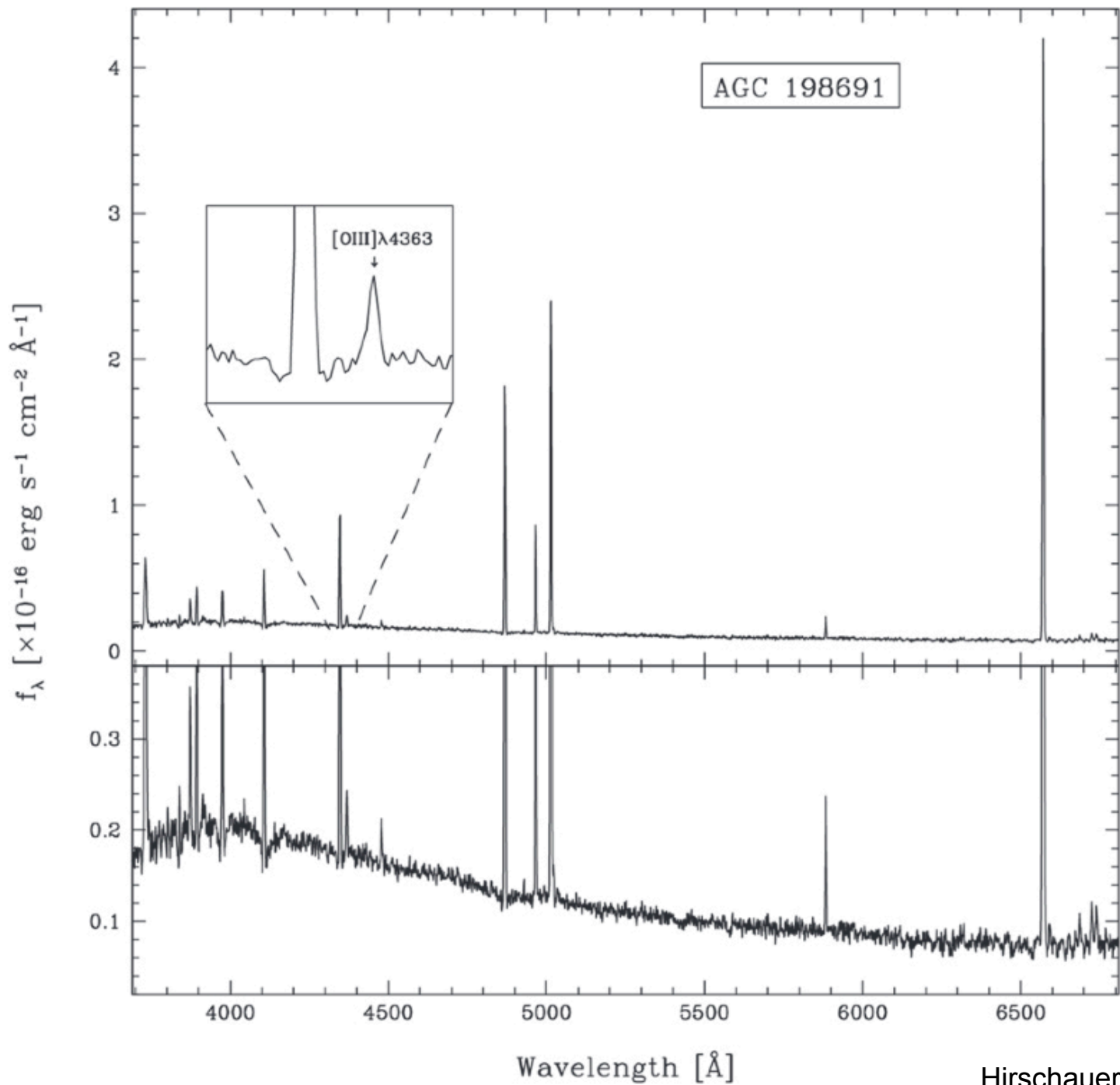
FUV



AGC 198691
LEONCINO



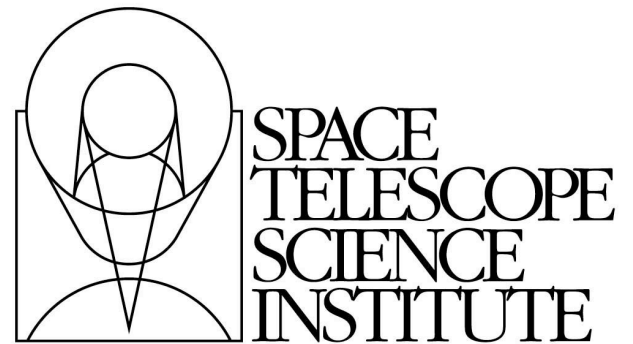




QUESTIONS?



ASTRON



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