ALFALFA

Hickson Compact Group 59

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Hickson Compact Groups*

- Systematic Search of POSS red plates
  - Population: $N \geq 4$
    - N = number of galaxies within 3 mags of brightest
  - Isolation: $\theta_N \geq \theta_G$
    - θ_G = Smallest circle containing centers
    - θ_N = Largest concentric circle without other galaxies
  - Compactness: $\mu_G < 26.0$
    - $\overline{\mu}_G$ = Total magnitude/arcsec^2 averaged over θ_G
  - Type: Brightest Galaxy E or S
    - I: brightest ≥ 1 magnitude brighter than next
    - II: brightest 0.5 to 1 magnitude brighter than next
    - III: brightest < 1 magnitude brighter than next

Hickson, 1982, Ap. J., **255**, 382

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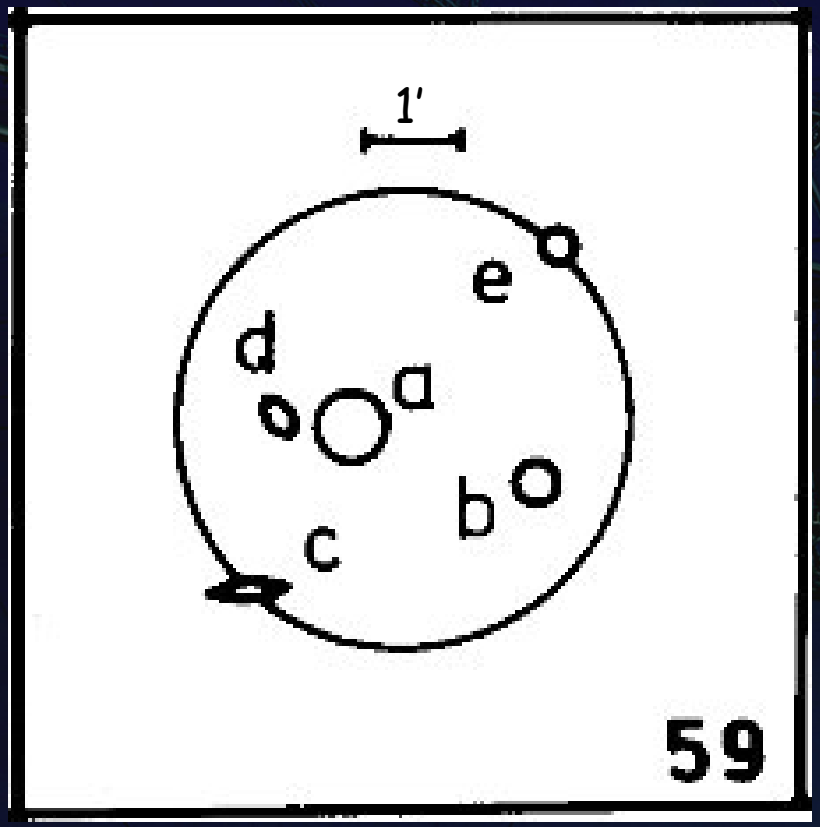
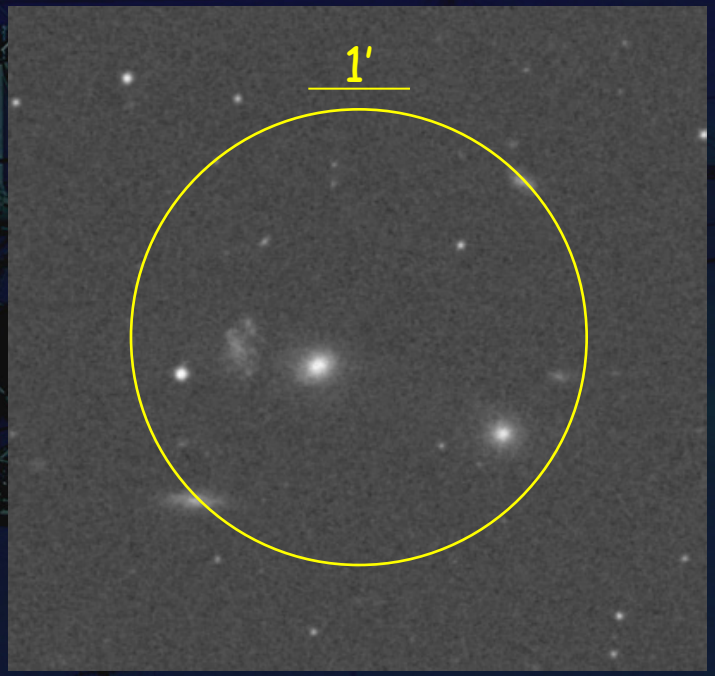
- center at $11^h45^m51^s$ +13°00′15″ (B1950)
  - Type: EIII
  - N_S = 4 spiral galaxies in top 3 magnitudes
  - N = 5 galaxies in top 3 magnitudes
  - θ_G = 2.1′ radius of group
  - m_G = 12.5 total mag in top 3 magnitudes
  - $\bar{m}_a$ = 13.5 magnitude of brightest galaxy
  - μ_G = 22.7 magnitudes/arcsec^2
  - also studied by Rose (1977, Ap. J., **211**, 311)

Original POSS Red Plate

- HCG 59: $11^h45^m51^s$ +13°00′15″





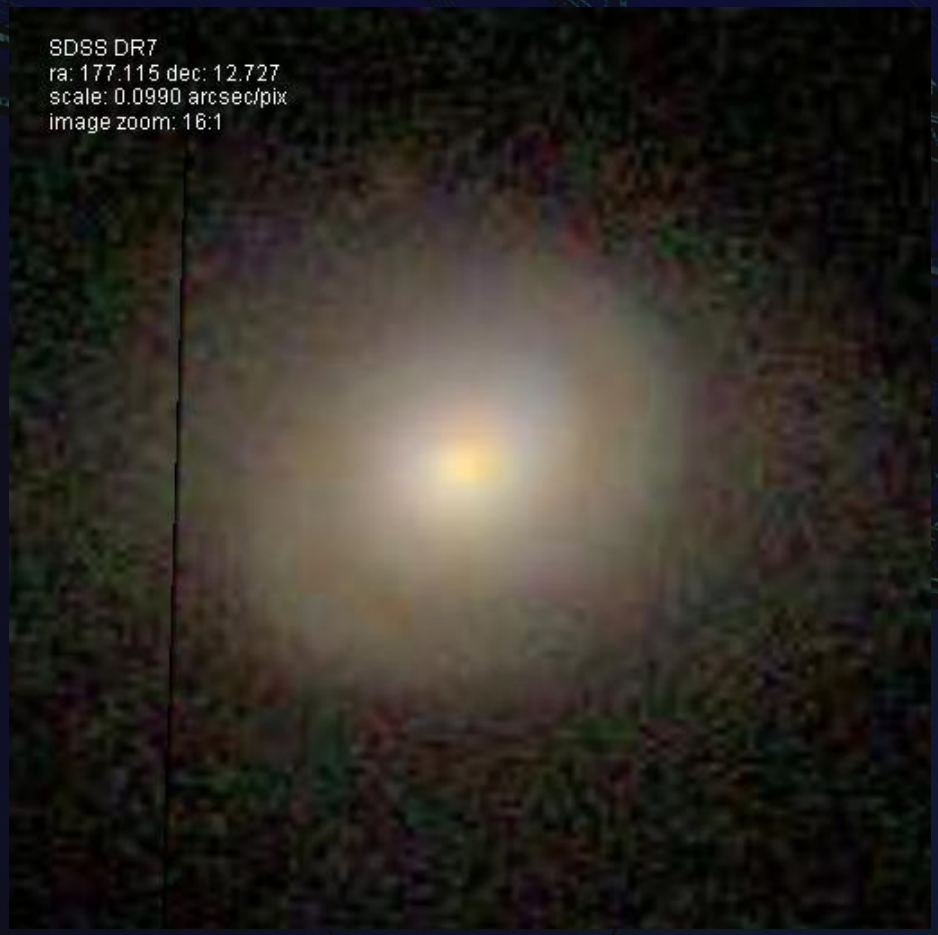
SDSS Image

$11^h48^m25.62^s$ +12°43′34.6″ (J2000)


11h4
N
E
W
S
E
D
A
B
C

The Galaxies

- a: IC 0737 11 48 30.7 +12 43 49

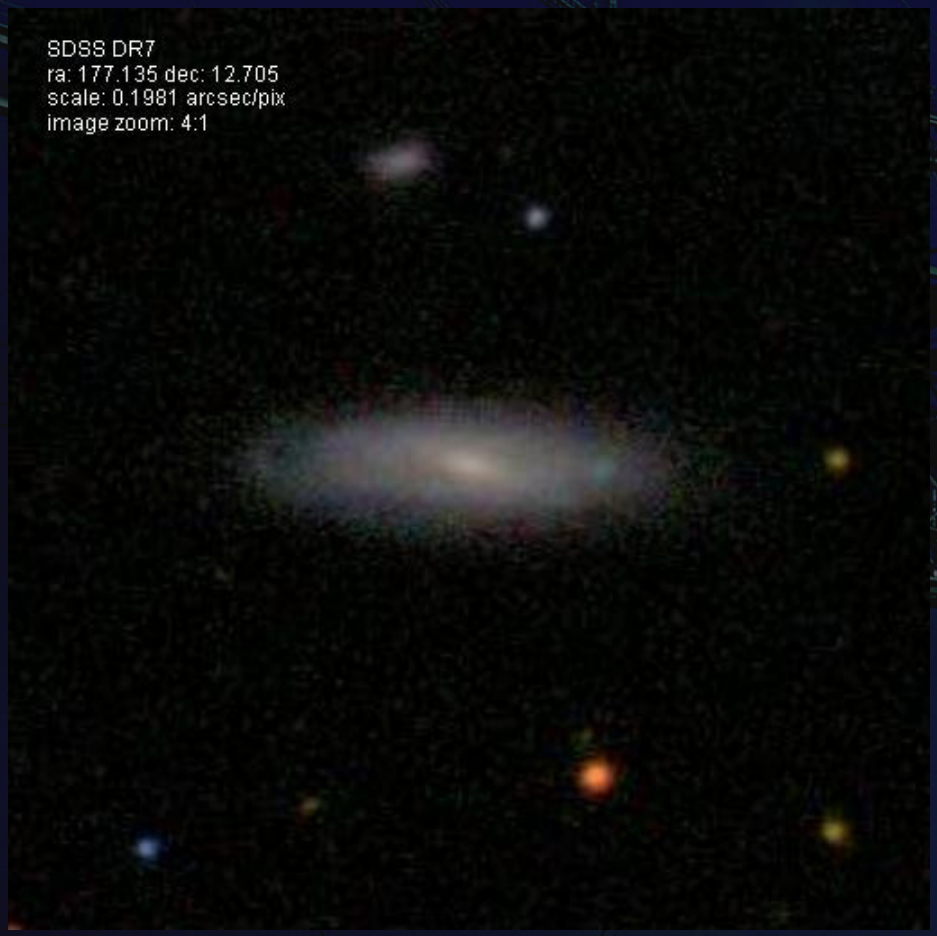


The Galaxies

- b: IC 0736 11 48 20.1 +12 42 59

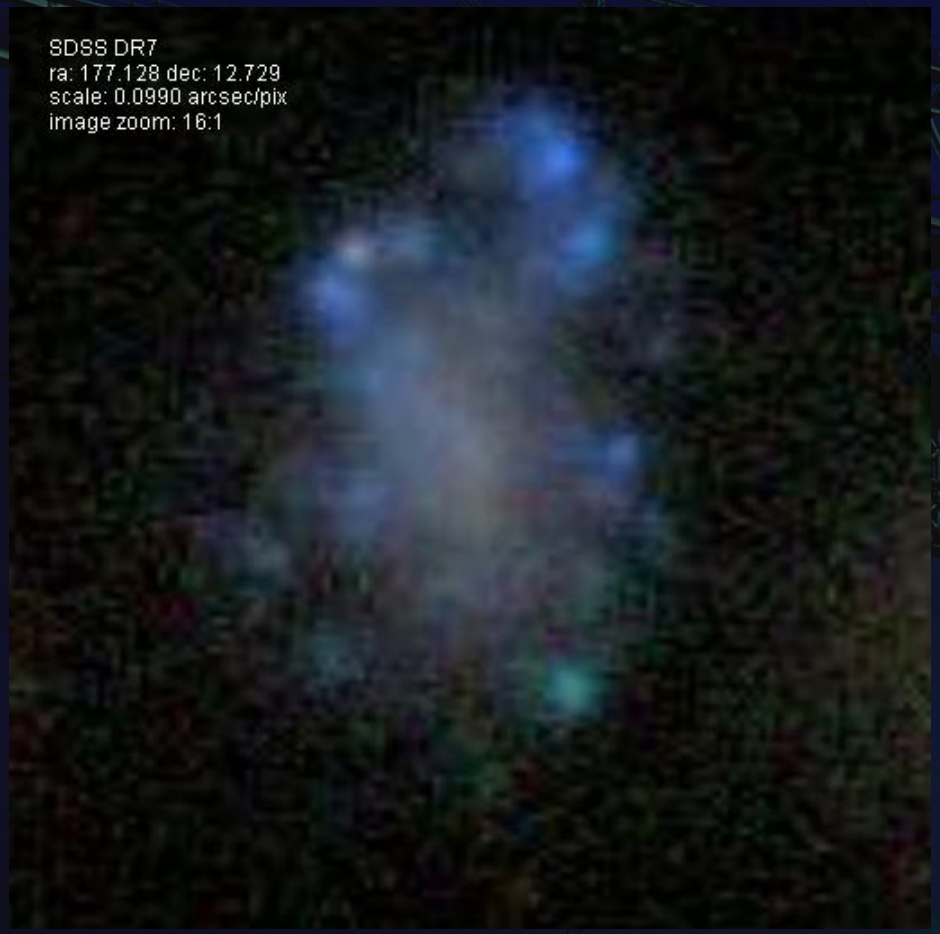
The Galaxies

- c: KUG 1145+129 11 48 32.4 +12 42 19



The Galaxies

- d: KUG 1145+130 11 48 30.6 +12 43 47



The Galaxies

- e: 2MASX 11 48 19.4 +12 45 27

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- Observations
  - Burns et al 1987: 1145.8+1300
    - v = 10036
    - Zwicky Galaxies (B1950)
      - a: 1145.9+1300 14.7 IC737 double system
      - b: 1145.8+1300 15.3 IC736 v = 4007a
      - c: 1146.0+1258 15.3
      - e: 1145.7+1259 15.3 v = 3896a
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