

Astronomía Extragaláctica

Cap. 5: Galaxias elípticas

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curso 2015

- 1 Distribución de brillo superficial
- 2 Cinemática
- 3 El plano fundamental
- 4 Poblaciones estelares y material interestelar
- 5 Agujeros negros supermasivos centrales

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Perfiles de brillo

NGC 1399 y G 675 (Abell 2572)

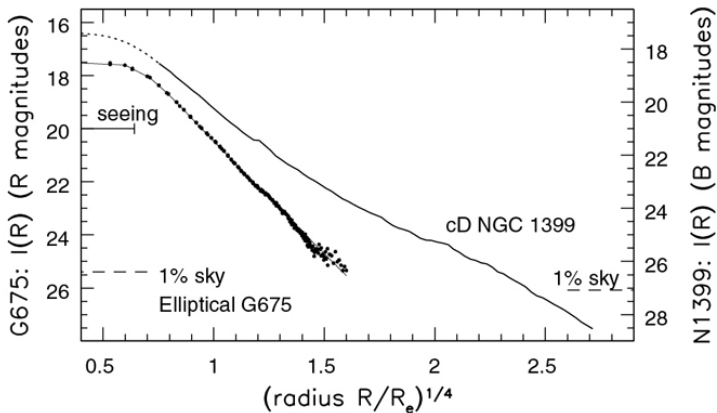


Fig 6.3 (Saglia, Caon) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

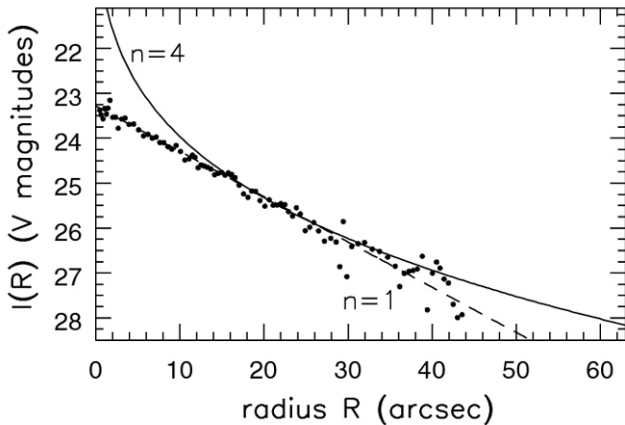


Fig 6.2 (H.Jerjen) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

Galaxias dominantes - cD

M87



Fig 6.4 (CFHT/J.-C. Calzante-Costantini) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

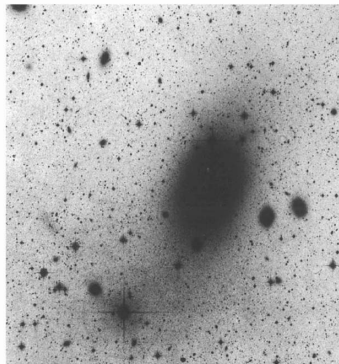
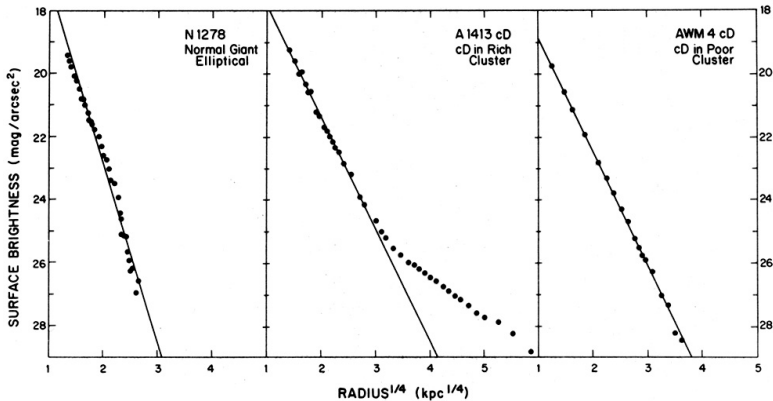


Fig 6.4 (D. Malin) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

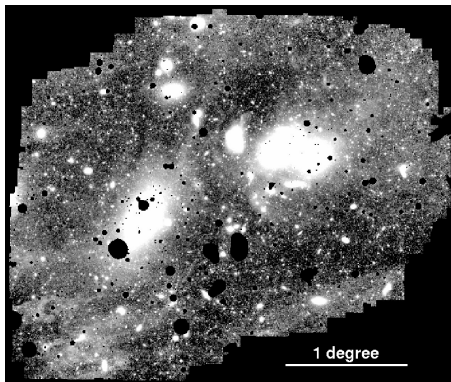
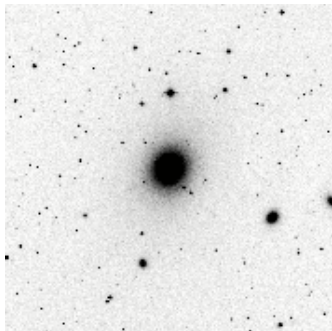
Perfiles de brillo galaxias cD

E normal - cD en cúmulo rico - cD en cúmulo pobre



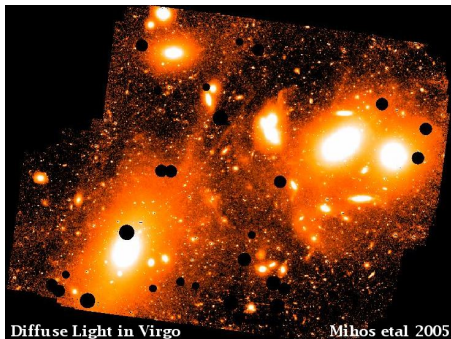
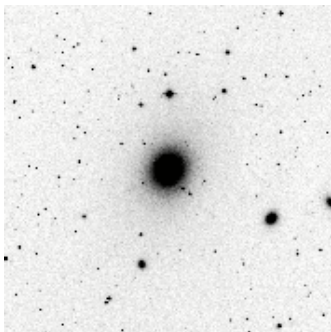
Luz intra-cúmulo

M87 - Virgo



Luz intra-cúmulo

M87 - Virgo



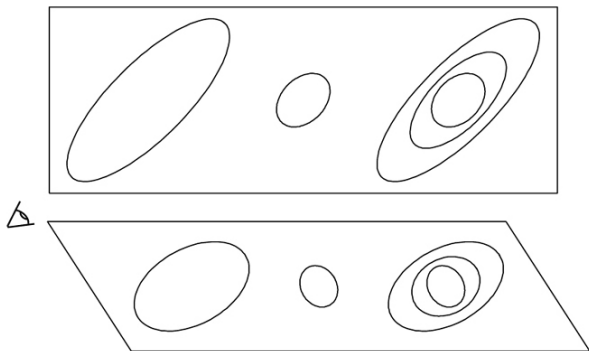


Fig 6.10 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

FIGURE 3. — Distribution of the ellipticity classes for all observed elliptical galaxies.

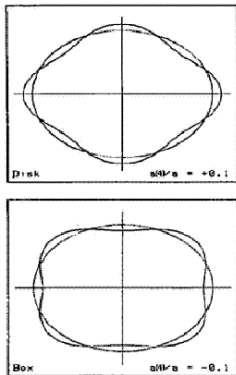


FIGURE 5. — Schematic drawing illustrating isophotes with $a(4)/a = +0.1$ and $a(4)/a = -0.1$.

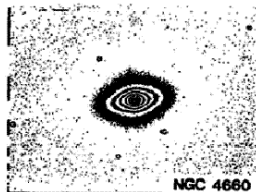


FIGURE 6. — R-image of NGC 4660, an elliptical galaxy with a disk-component in the isophotes ($a(4)/a \sim +0.03$).

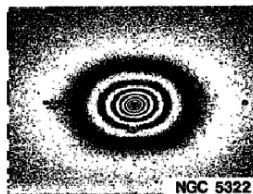


FIGURE 7. — R-image of NGC 5322, an elliptical galaxy with box-shaped isophotes ($a(4)/a \sim -0.01$).

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Curvas de v_R y σ_V

NGC 1399

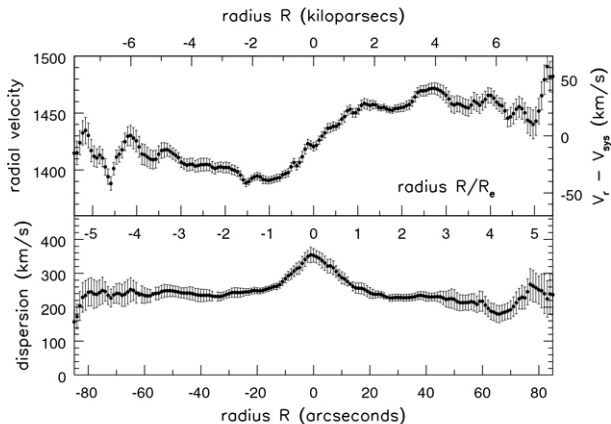


Fig 6.12 (A. Graham) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

Diagrama cinemático para rotadores isótropos

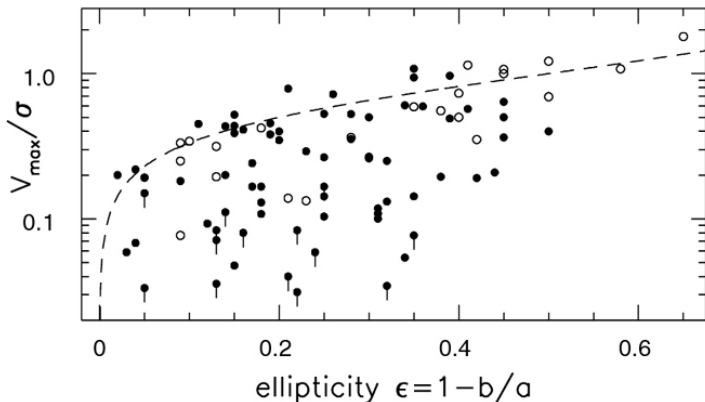


Fig 6.14 (R. Bender) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

Relación entre cinemática y morfología

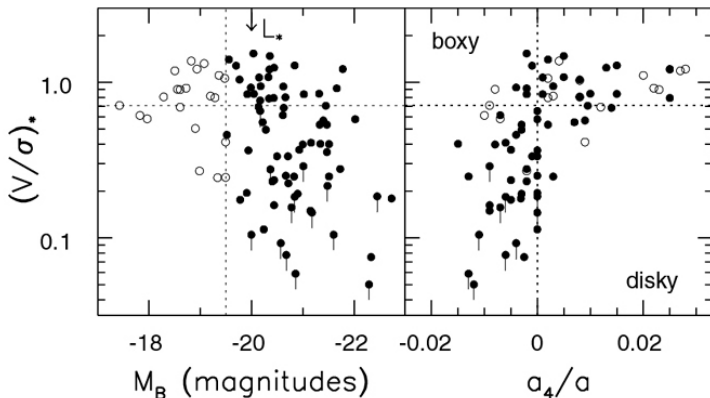


Fig 6.15 (R. Bender) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

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Relaciones fotométricas

Sistemas esferoidales

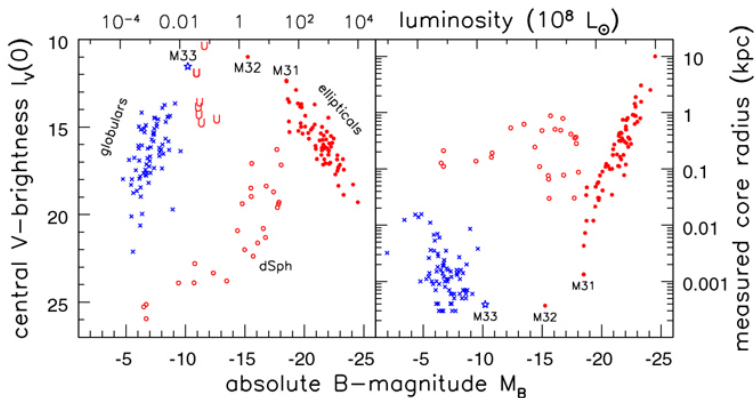
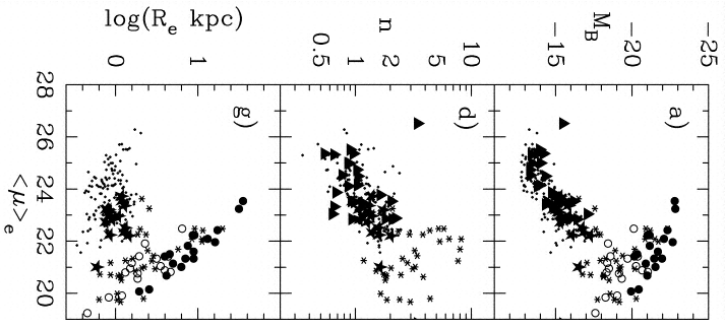


Fig 6.6 (Kormendy, Philipps) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

Relaciones fotométricas

Sistemas esferoidales



Relación Faber-Jackson

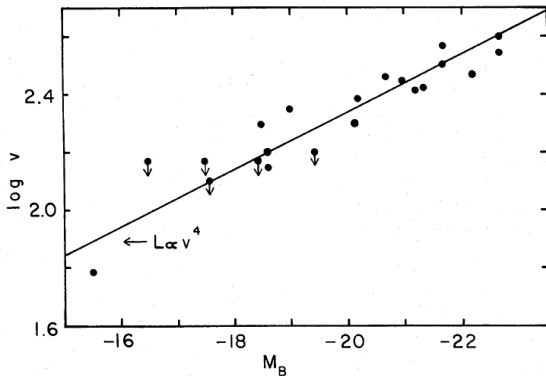
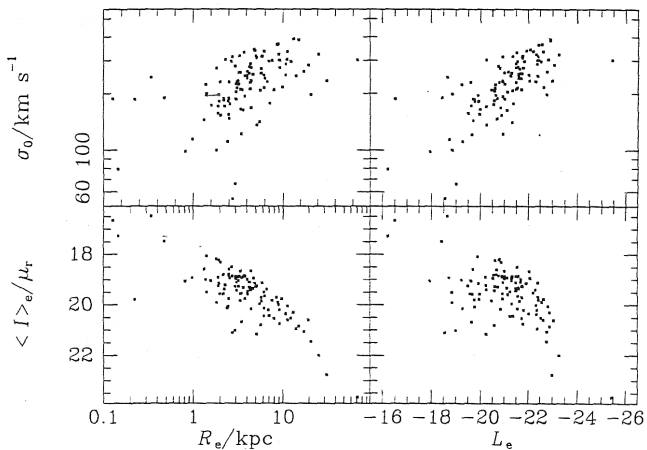


FIG. 16.—Line-of-sight velocity dispersions versus absolute magnitude from Table 1. The point with smallest velocity corresponds to M32, for which the velocity dispersion (60 km s^{-1}) was taken from Richstone and Sargent (1972).

Plano Fundamental

Djorgovski & Davis (1987)



Relación Faber-Jackson y plano fundamental

galaxias E en el cúmulo de Coma y cúmulos a $z \geq 0.39$ (círculos llenos)

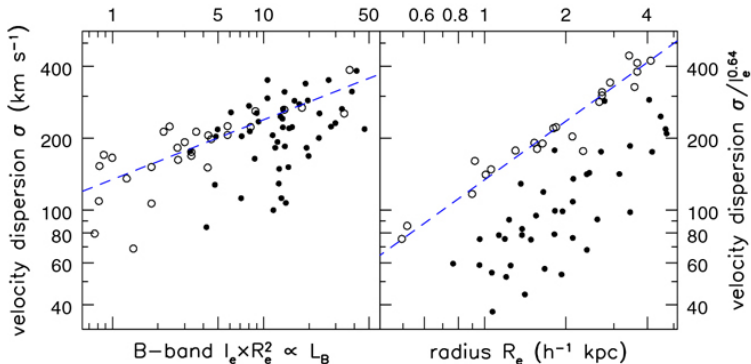


Fig 6.13 (T. Treu) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

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Espectro UV-óptico-IR de una galaxia E

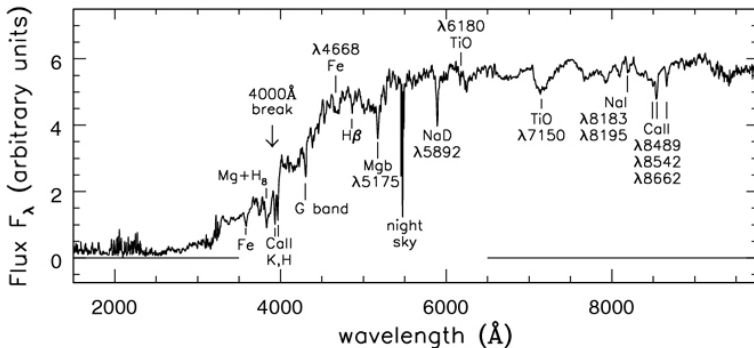


Fig 6.17 (A. Kinney) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

Relación color-luminosidad

Virgo (círculos vacíos) - Coma (círculos llenos)

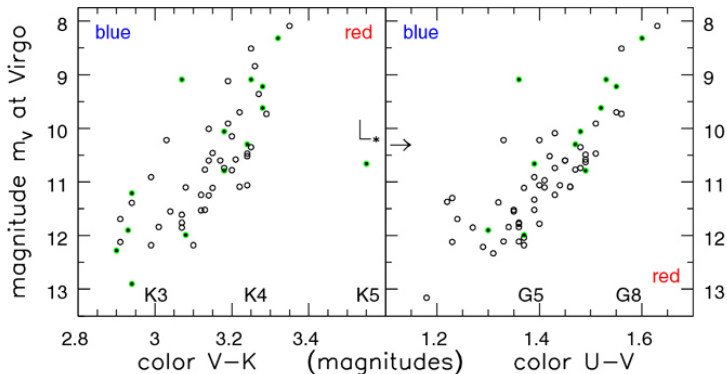
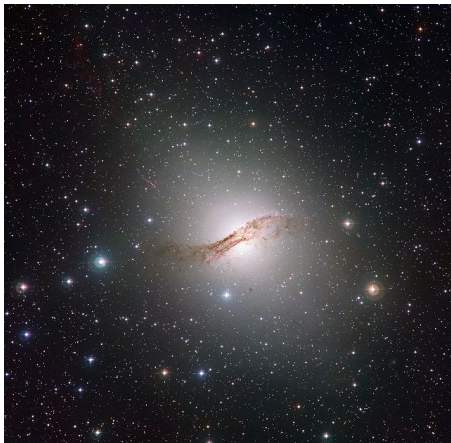


Fig 6.19 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

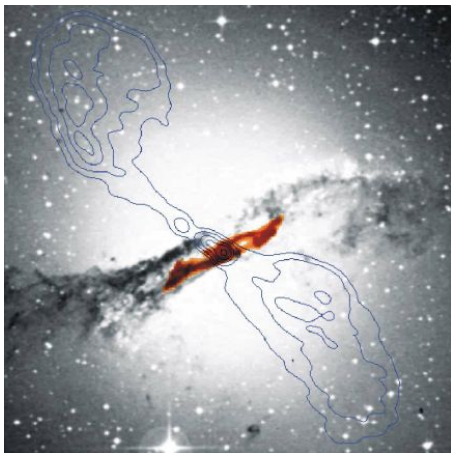
Gas y polvo

NGC 5128 (≡ radiofuente Cen A)



Gas y polvo

NGC 5128 (\equiv radiofuente Cen A)

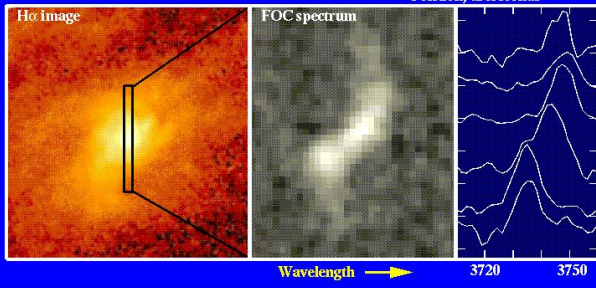
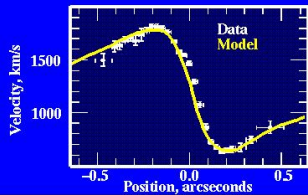


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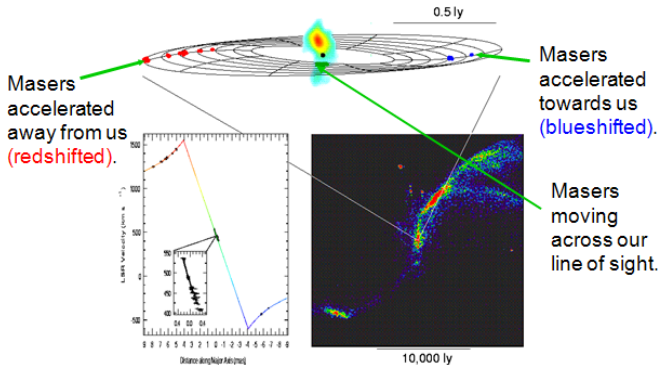
Curva de rotación de M 87

Velocity Profiles in the M87 Core

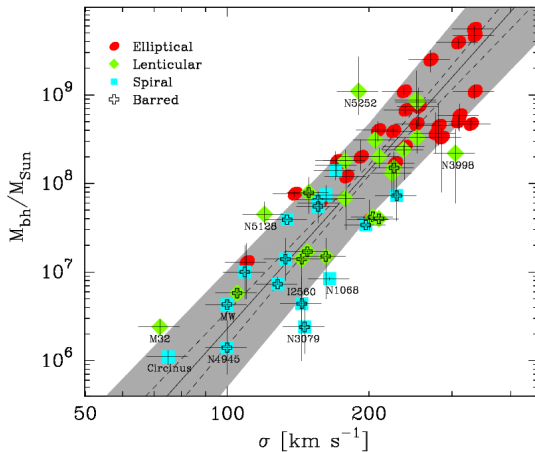
Model: central mass 3.2×10^9 solar masses



Curva de rotación de NGC 4258



Relación $M_{\bullet} - M_{\text{sph}}$



- *Galaxies in the Universe: An Introduction*,
Linda S. Sparke & John S. Gallagher III (Cambridge
University Press, 2nd. Edition, 2000).
- *Galactic Astronomy*,
J. Binney & M. Merrifield (Princeton University Press,
1998).