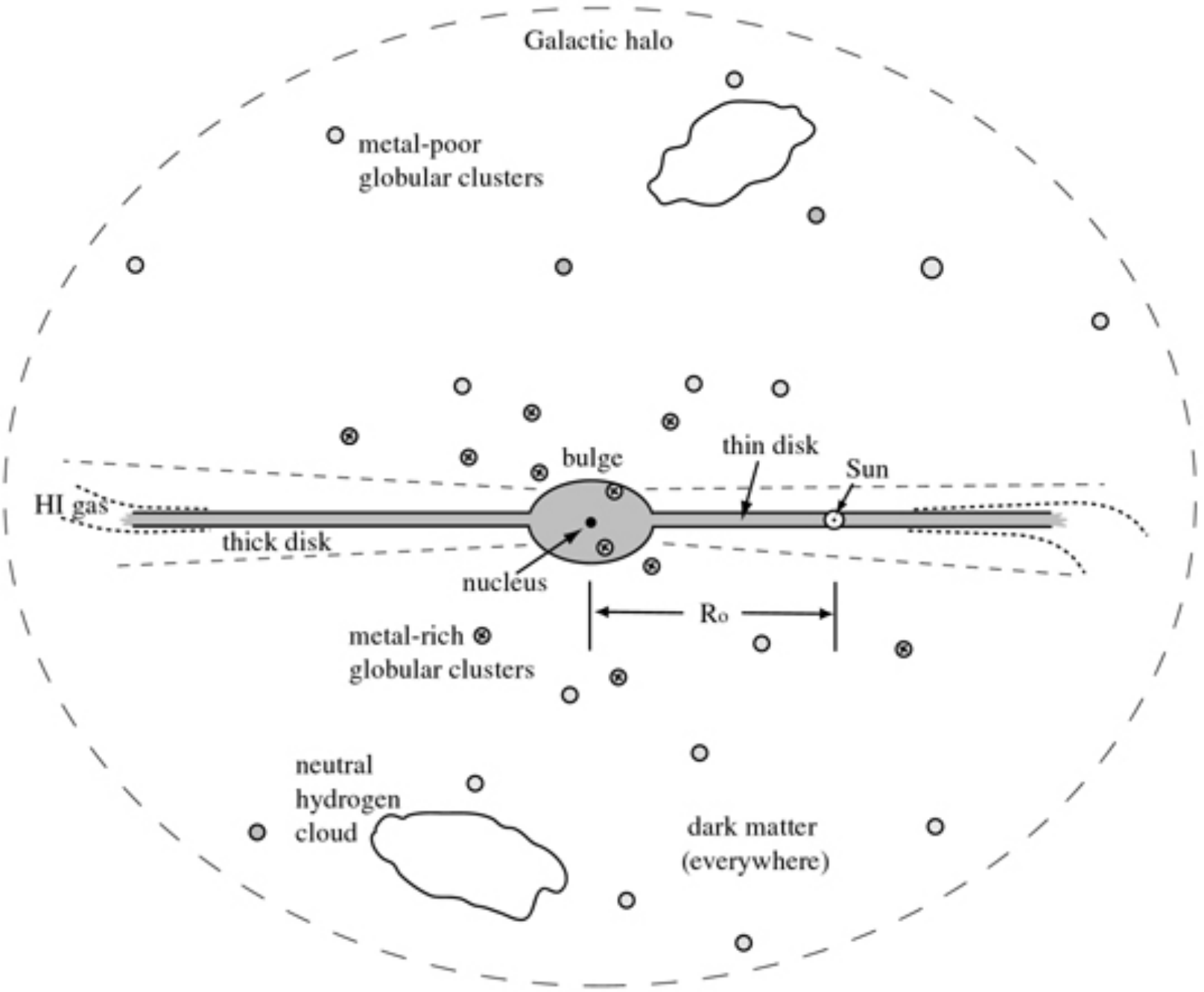
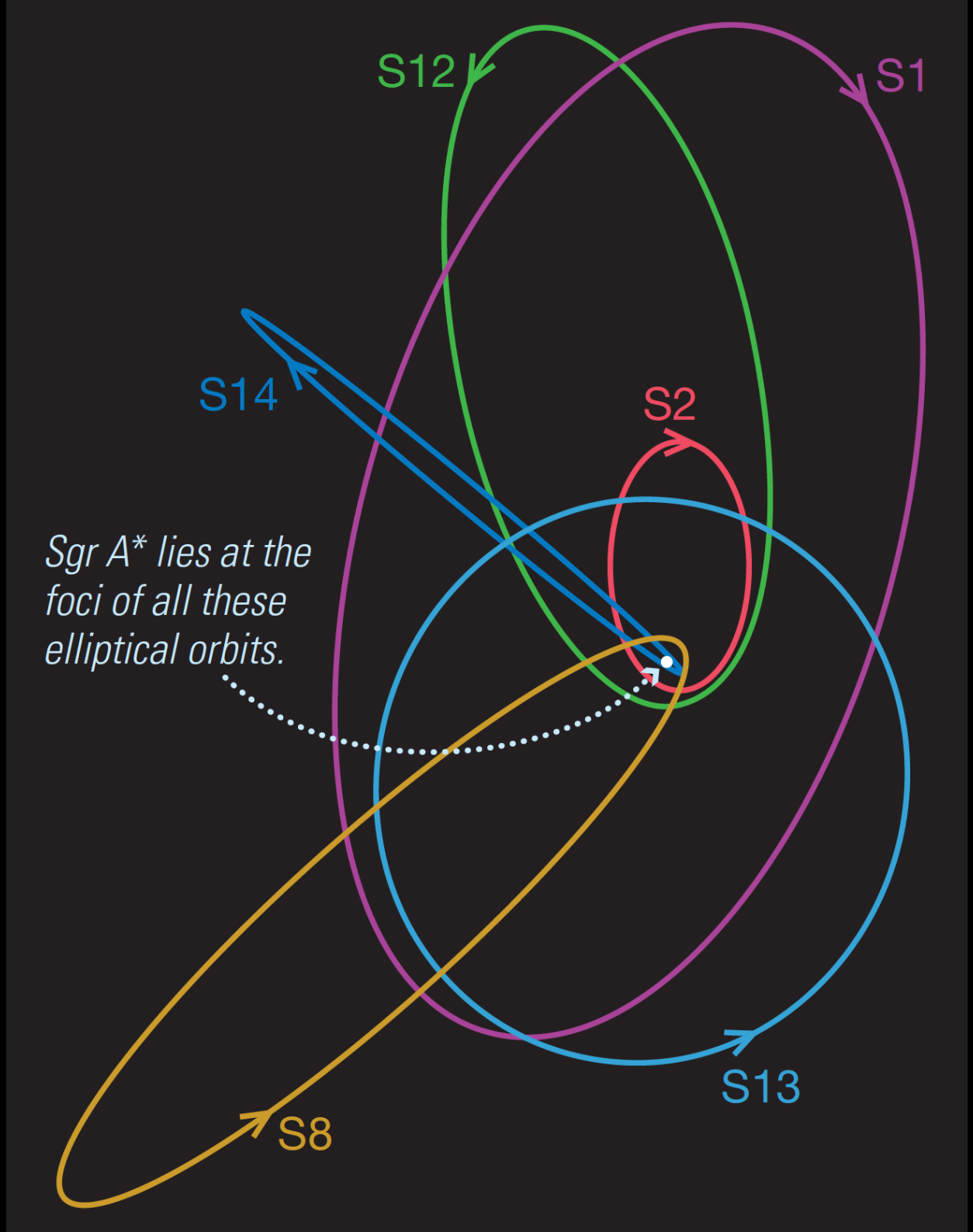
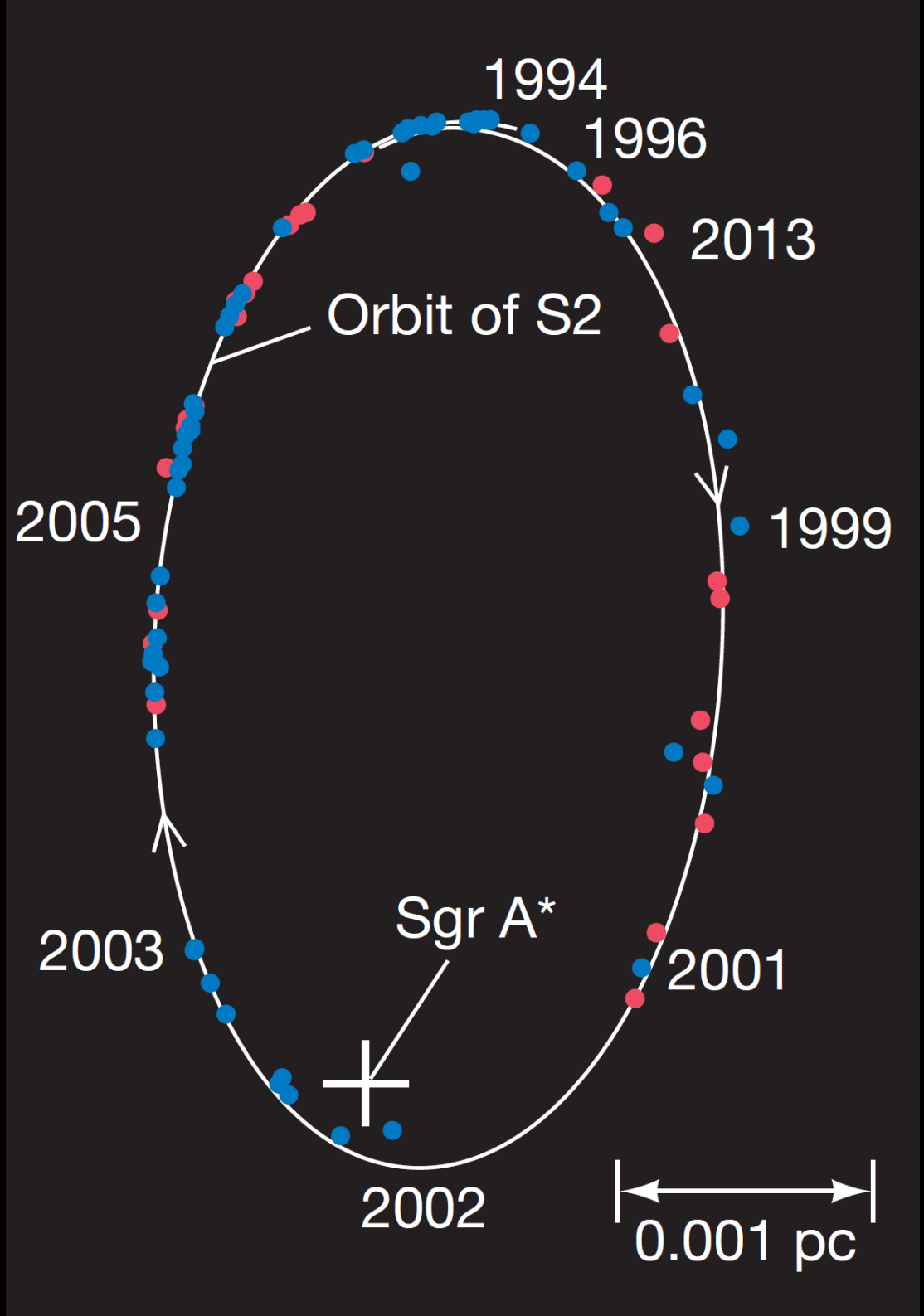
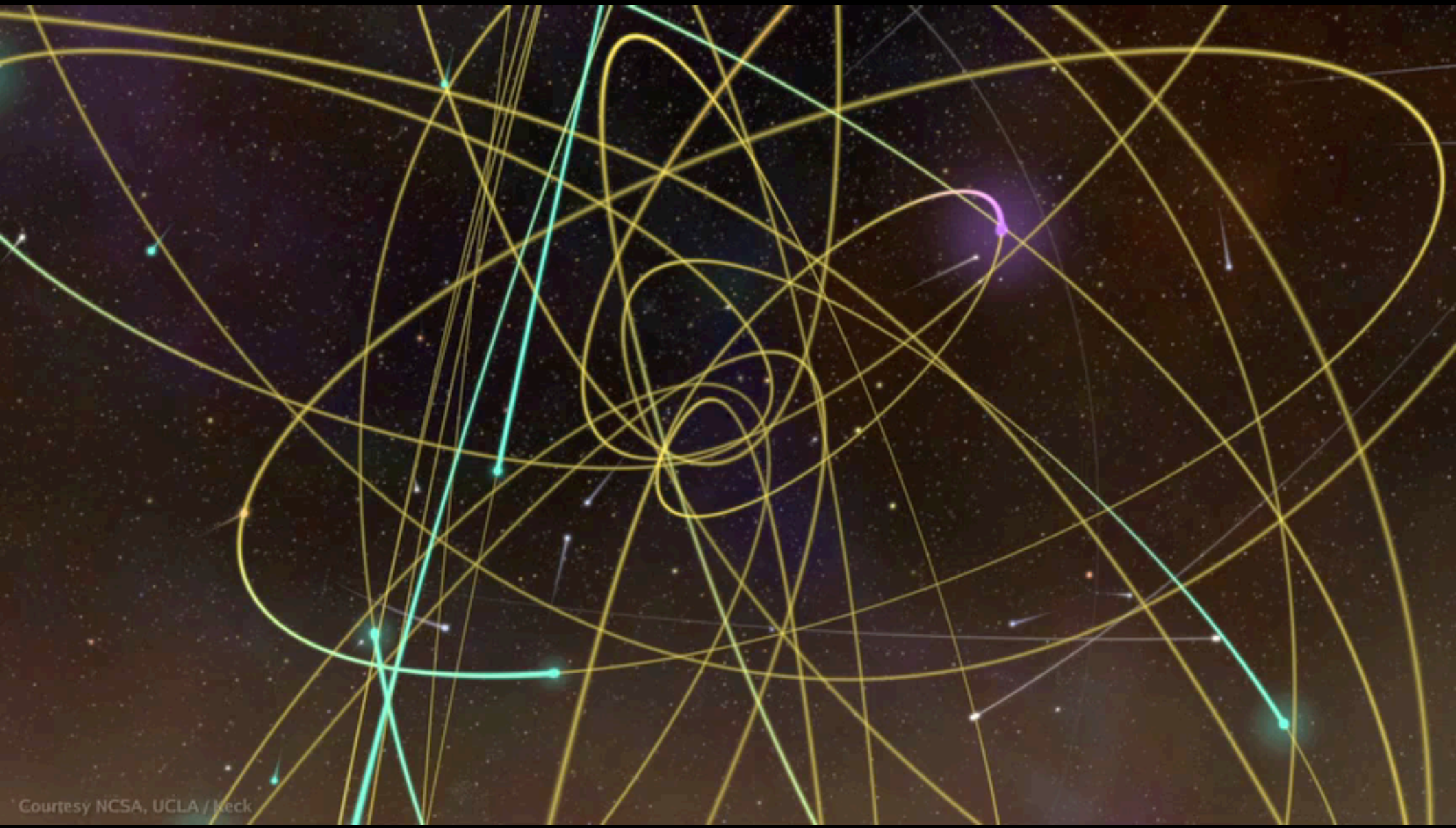
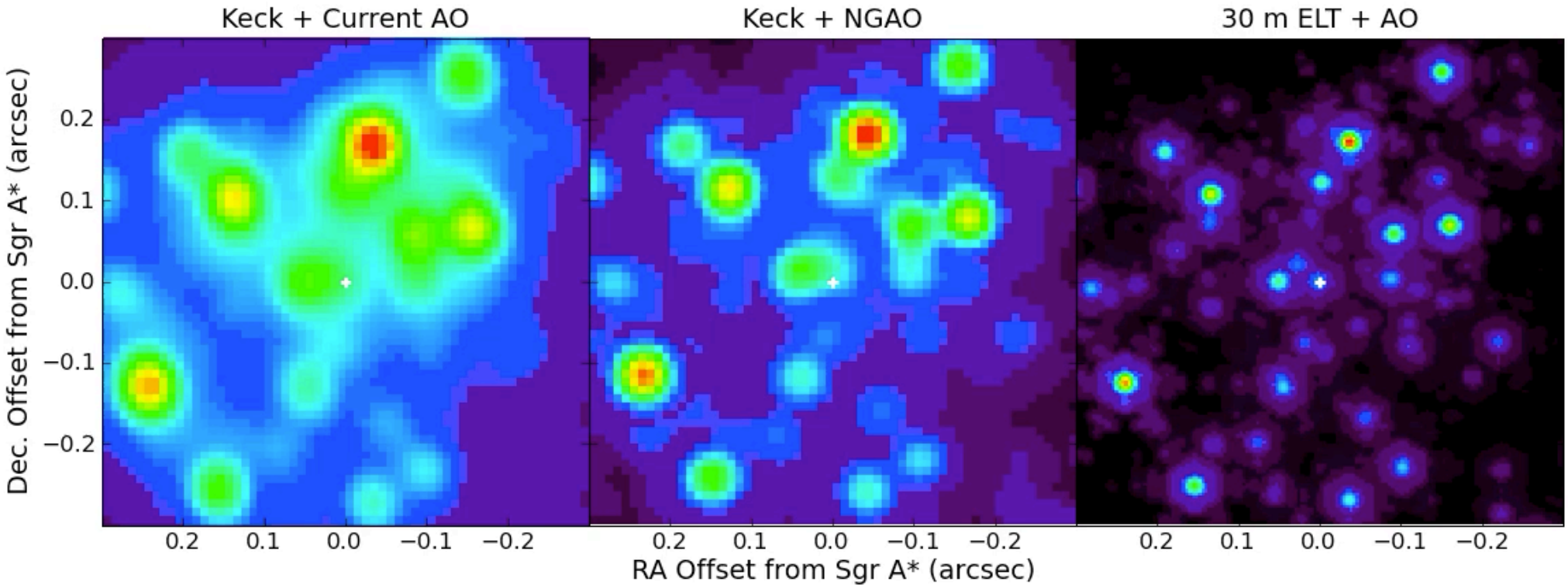


Fig 1.8 'Galaxies in the Universe' Sparke/Gallagher CUP 2007


S12
S1
S14
S2
Sgr A* lies at the foci of all these elliptical orbits.
S13
S8


1994
1996
2013
Orbit of S2
2005
1999
Sgr A*
2003
2001
2002
0.001 pc


Courtesy NCSA, UCLA / Keck



http://www.astro.ucla.edu/~ghezgroup/gc/pictures/Future_GCorbits.shtml

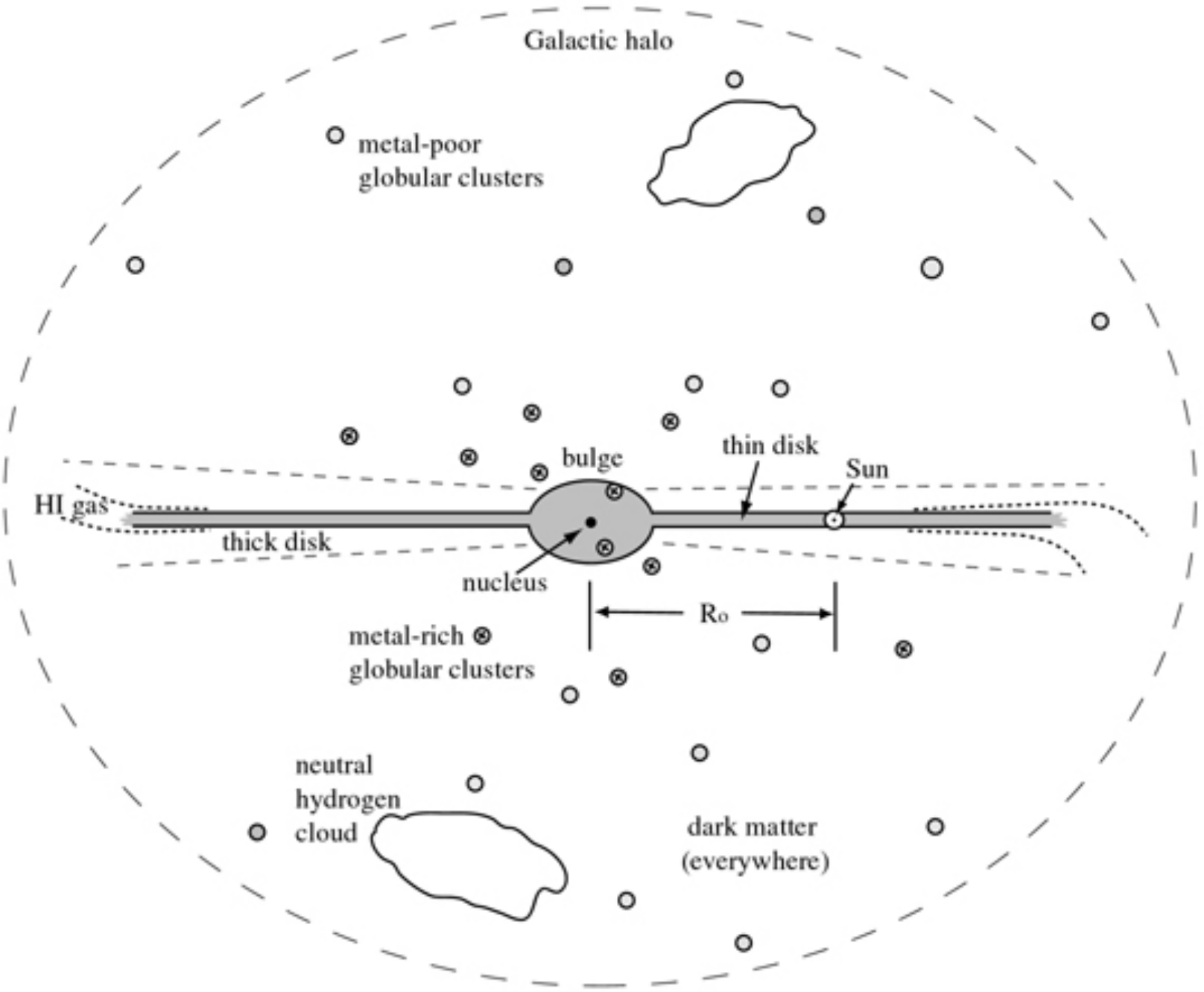
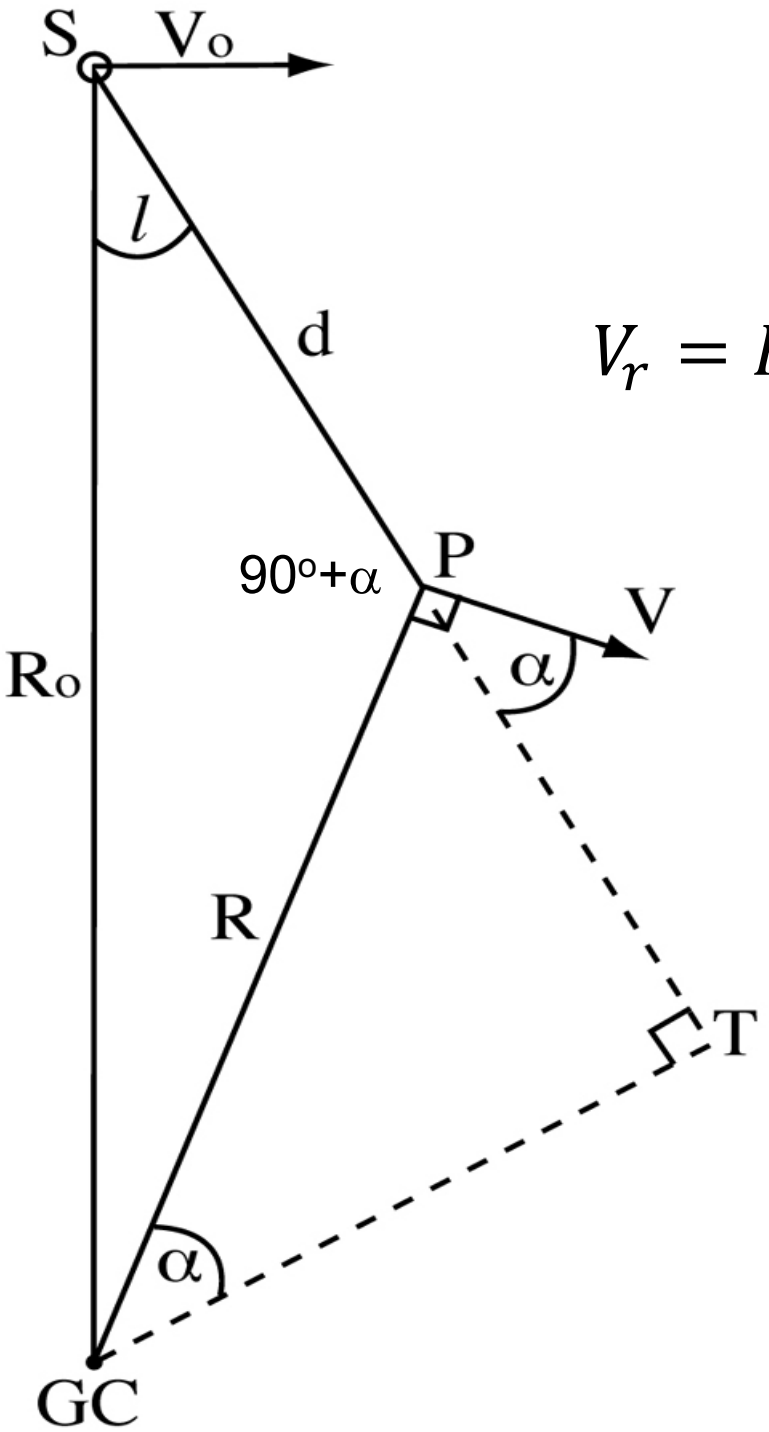


Fig 1.8 'Galaxies in the Universe' Sparke/Gallagher CUP 2007



$$V_r = R_0 \sin l \, (\Omega - \Omega_0)$$

Fig 2.19 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

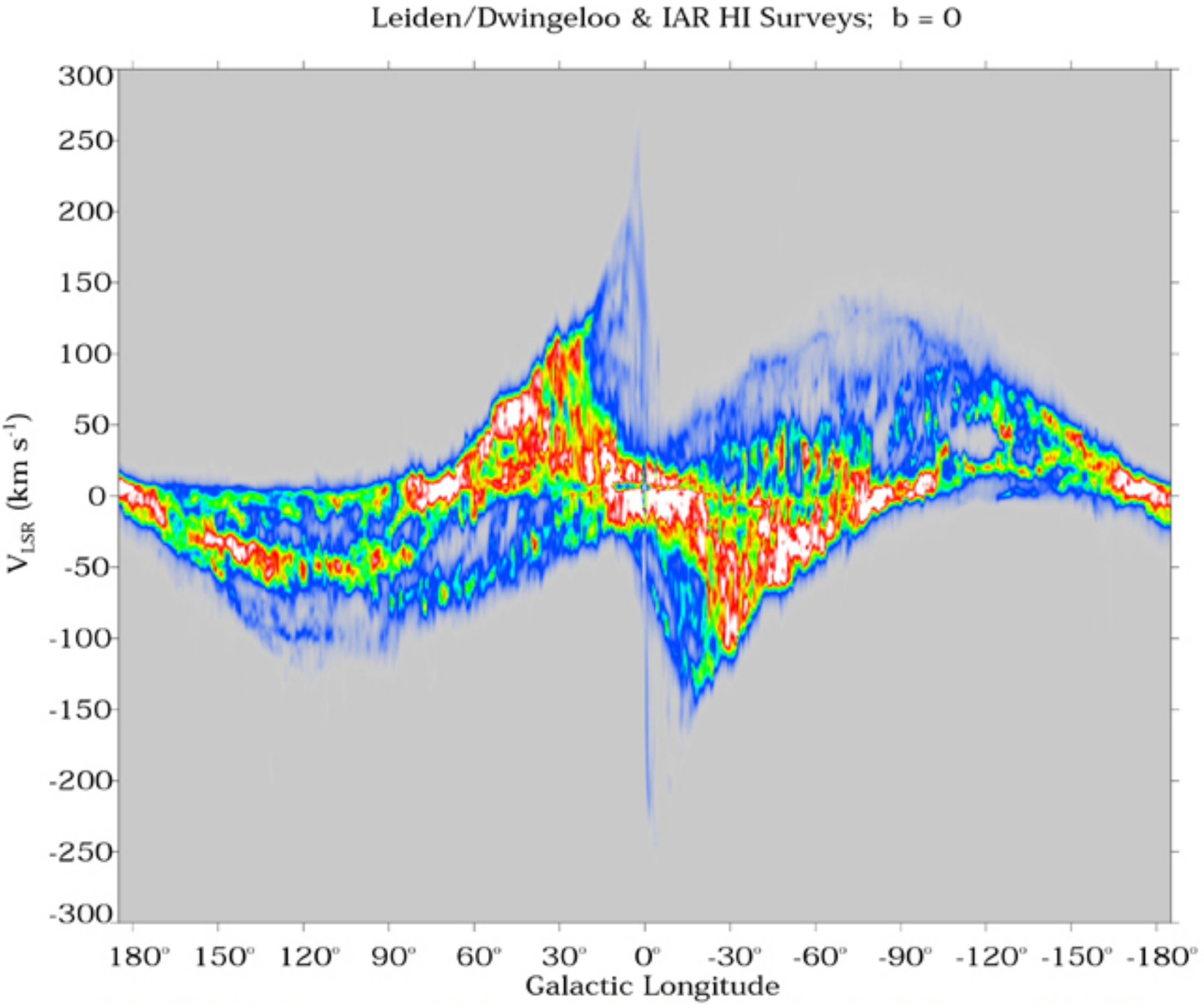


Fig 2.20 (D. Hartmann) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

$M \approx V^2 R/G$ = 7.4 x 10^{10} $M_\odot$ 1.8 x 10^{11} $M_\odot$

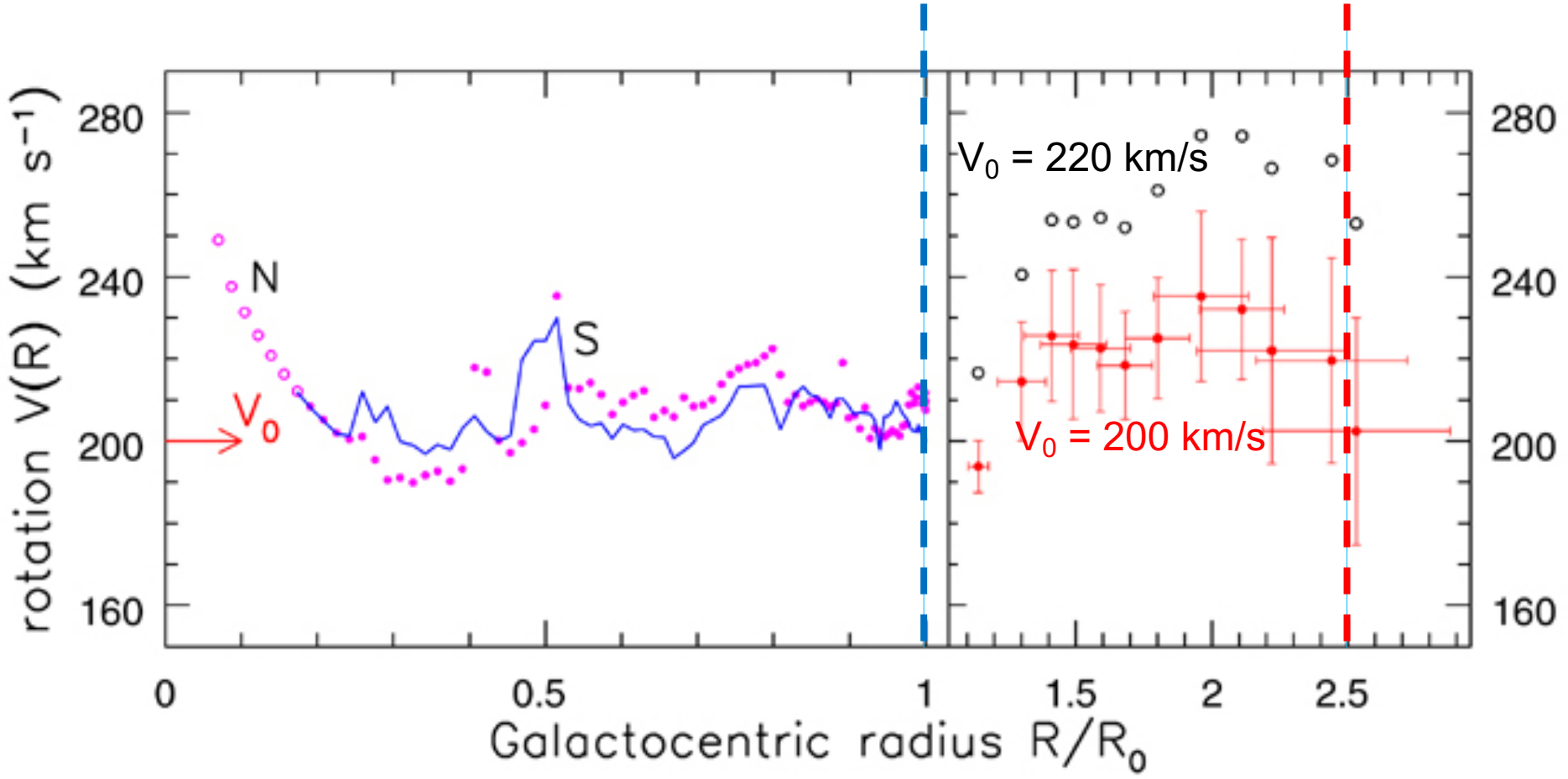


Fig 2.21 (Burton, Honma) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007

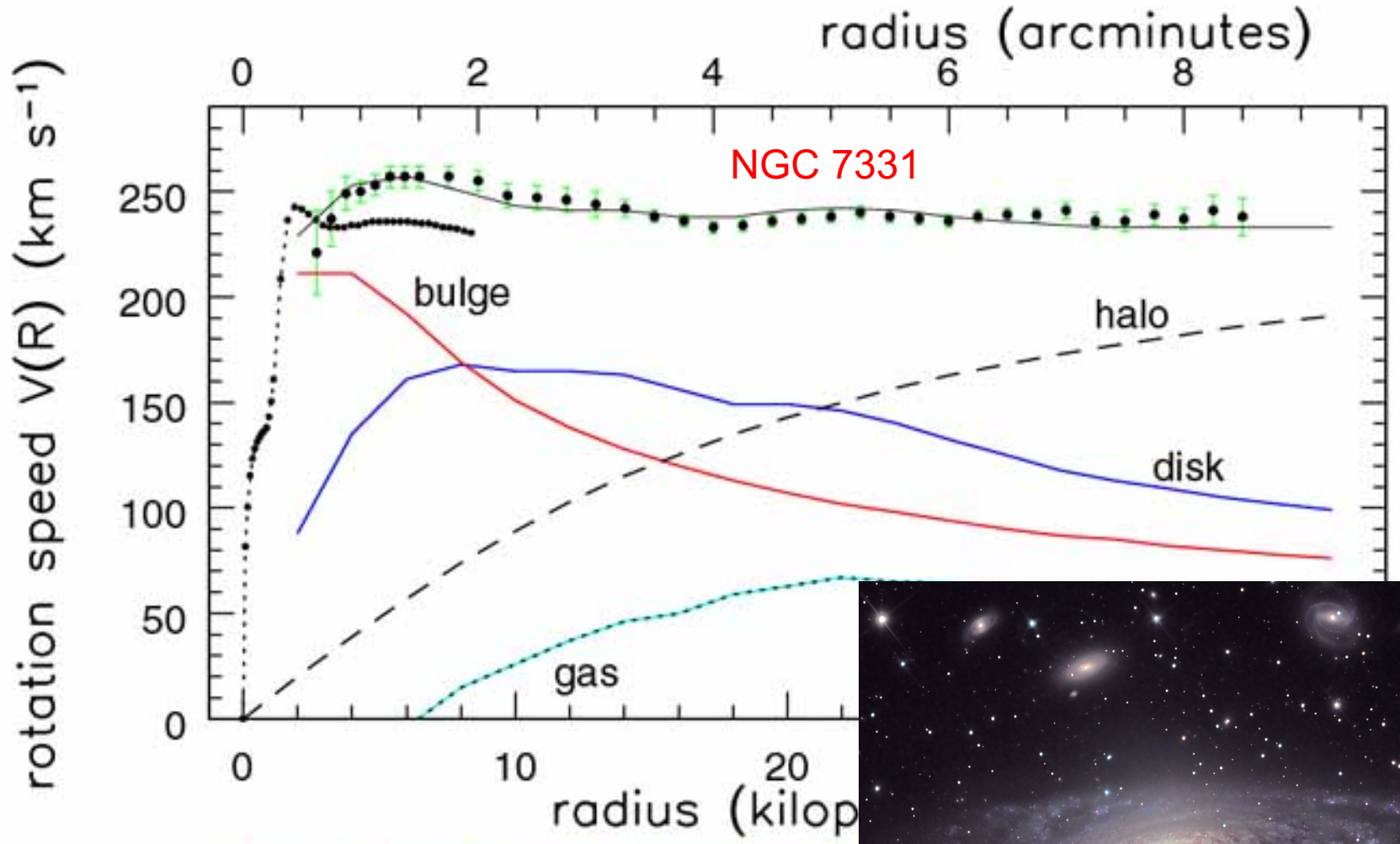


Fig 5.20 (Begeman, Sofue) 'Galaxies in the U

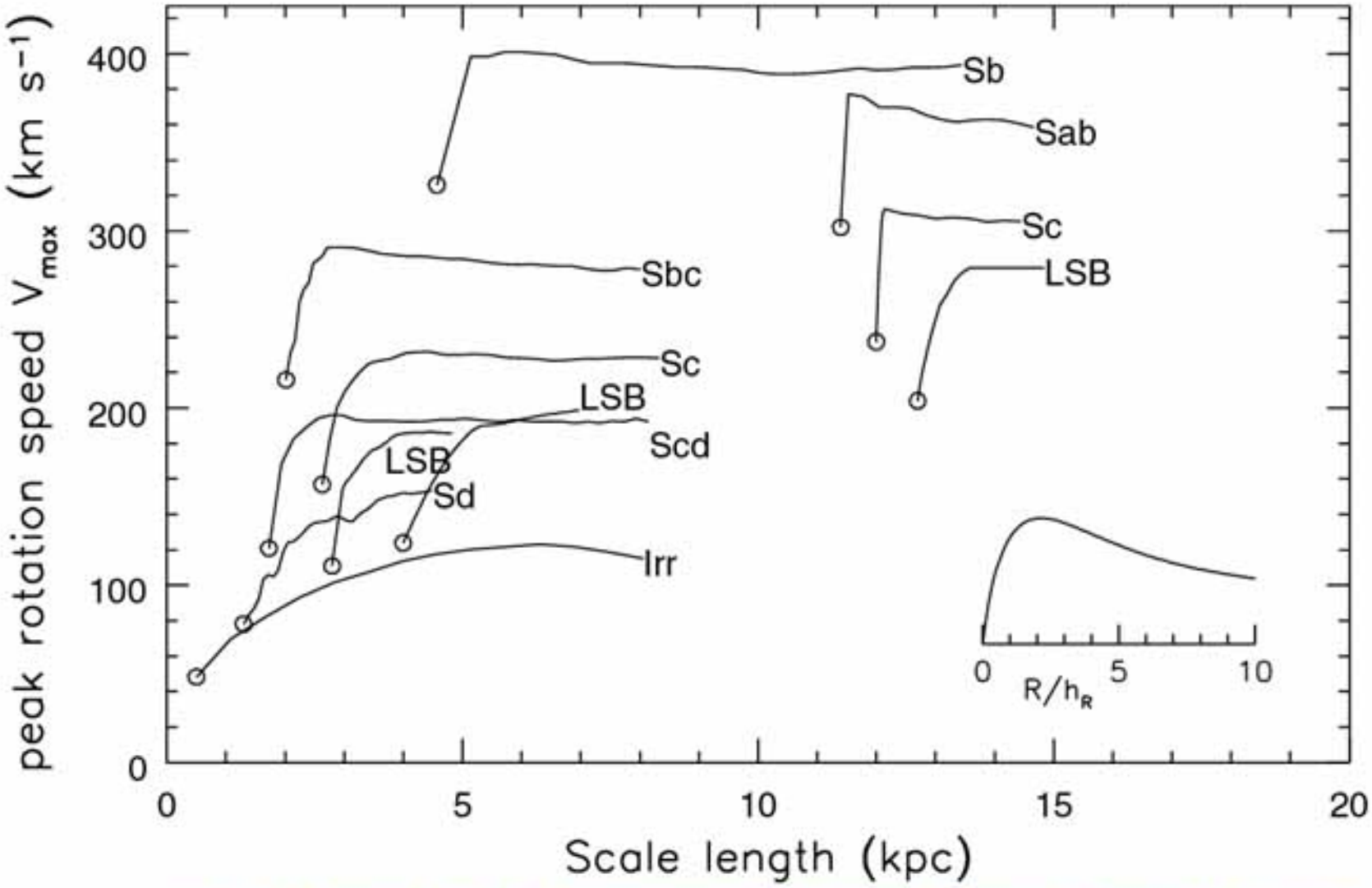
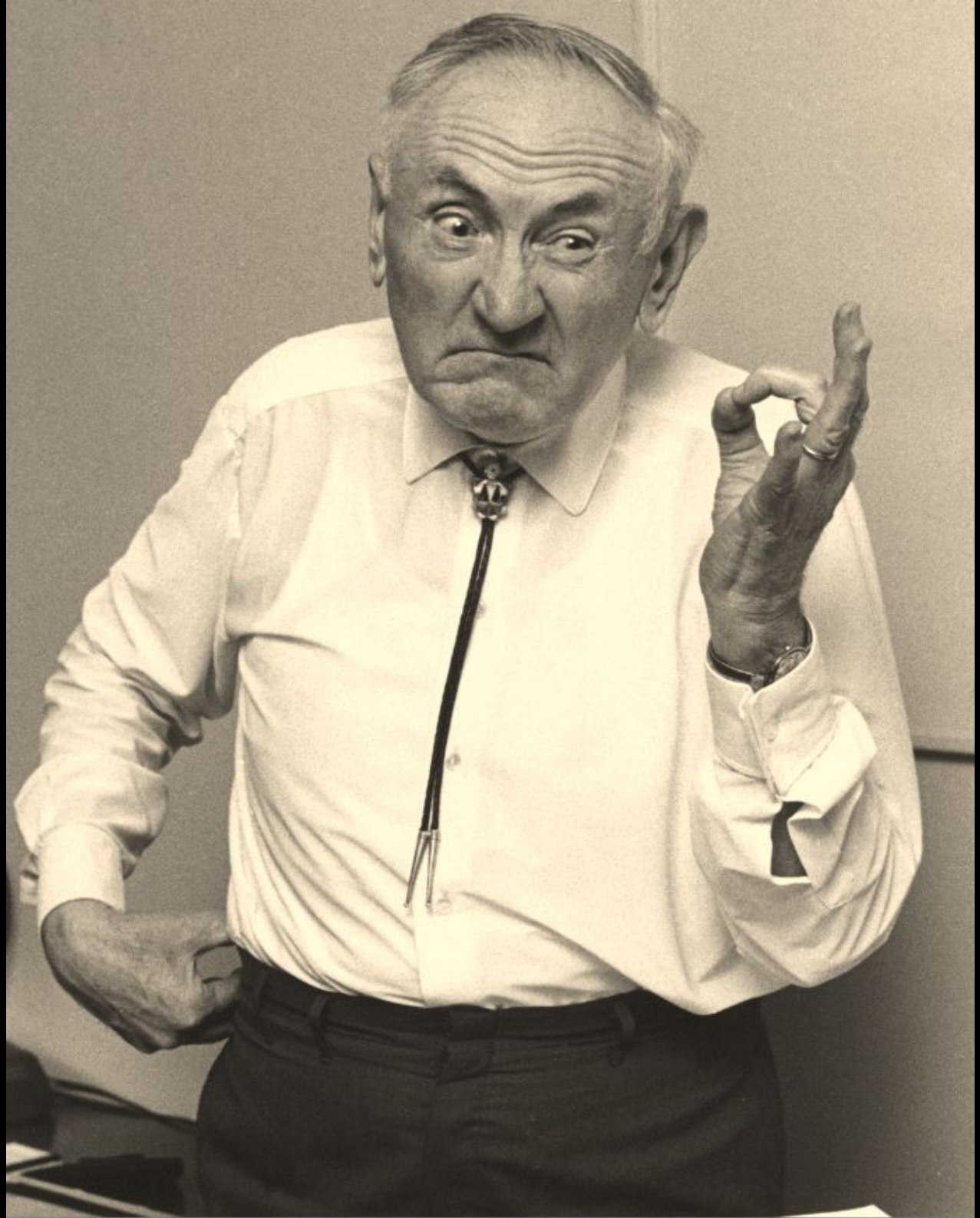
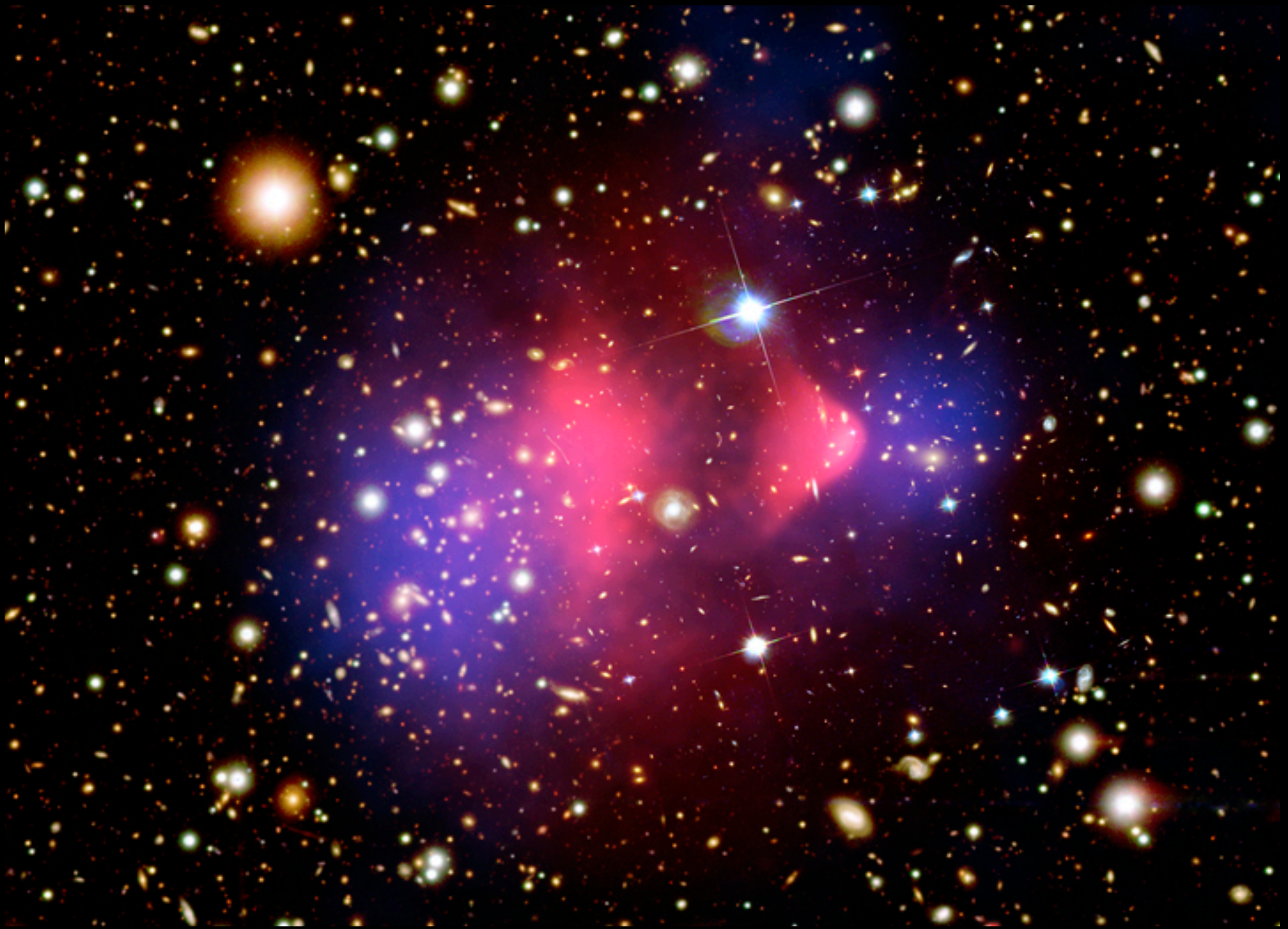


Fig 5.21 (Broeils & de Blok) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007





phase	component	T (K)	n (cm^{-3})	M_{tot} ($M_\odot$)	scale (pc)
molecular cloud	cold	10 – 20	> 10^3	3 x 10^9	10 – 50
dust	cold/cool	—	~ 10^{-12} n_H	few x 10^7	
HI cloud	cool	100	20	6 x 10^9	100
HI cloud	warm	10^4	0.2		>1 kpc
corona/ bubble	hot	> 10^6	~ 10^{-3}	10^8	galaxy

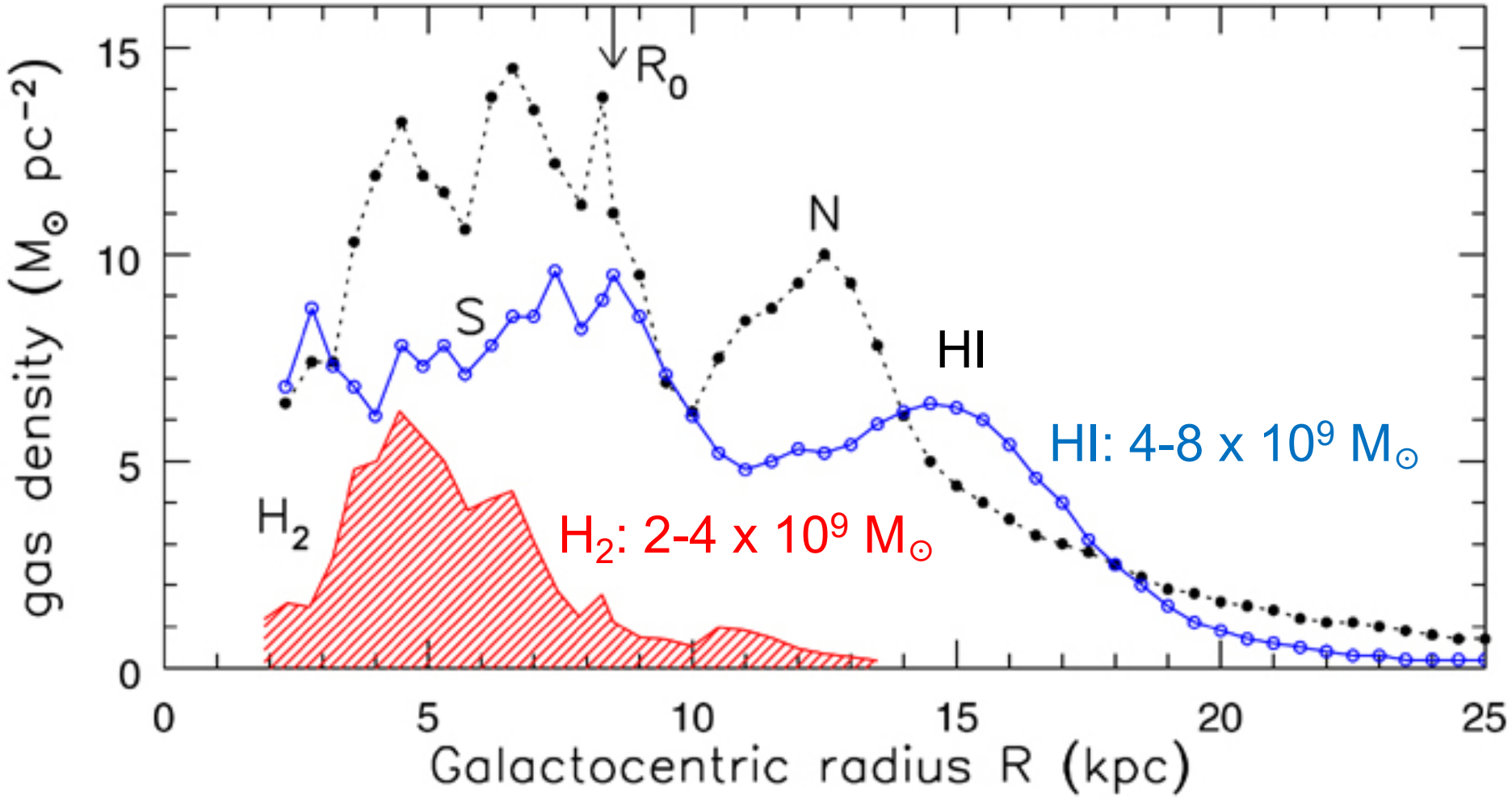
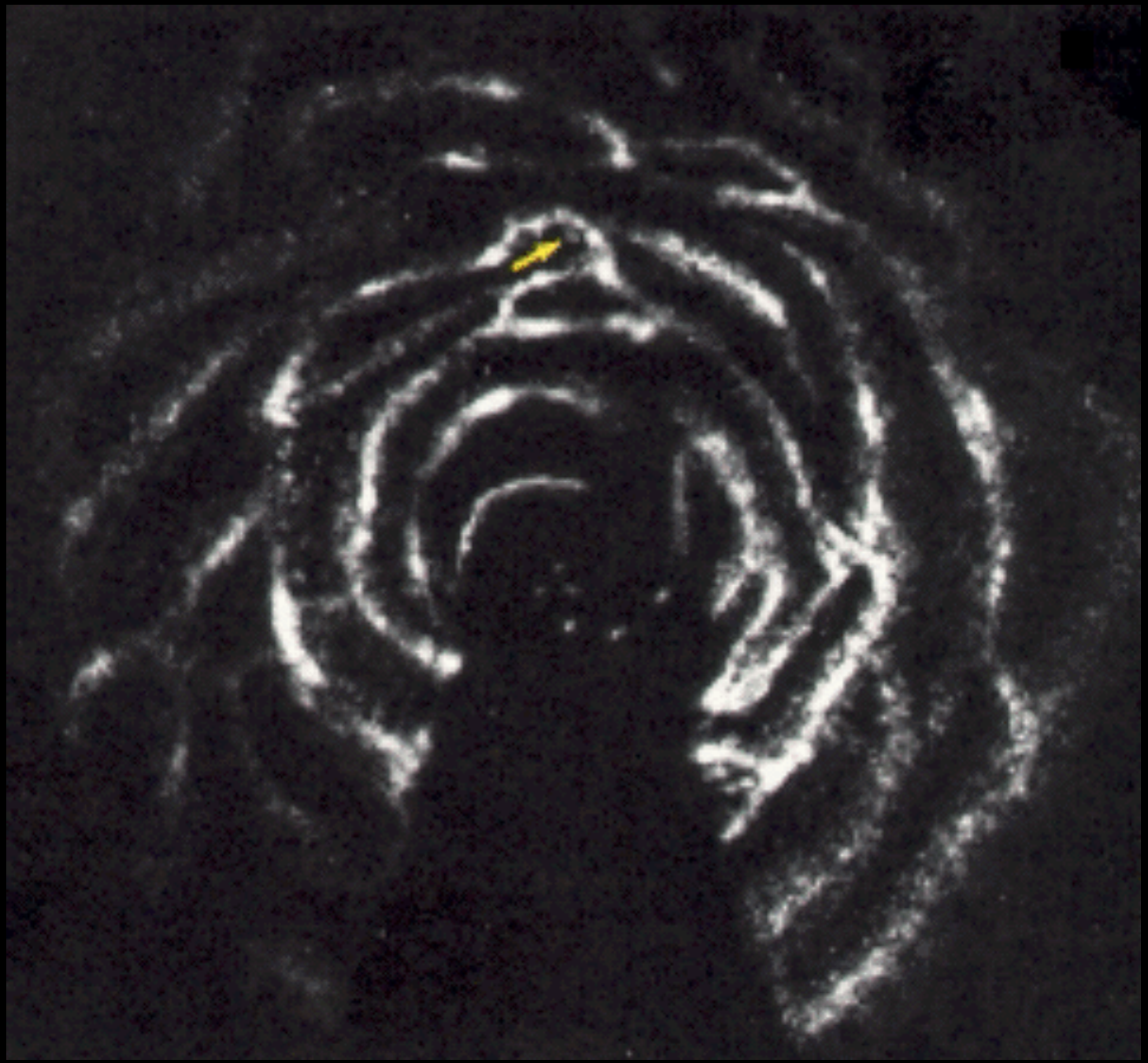
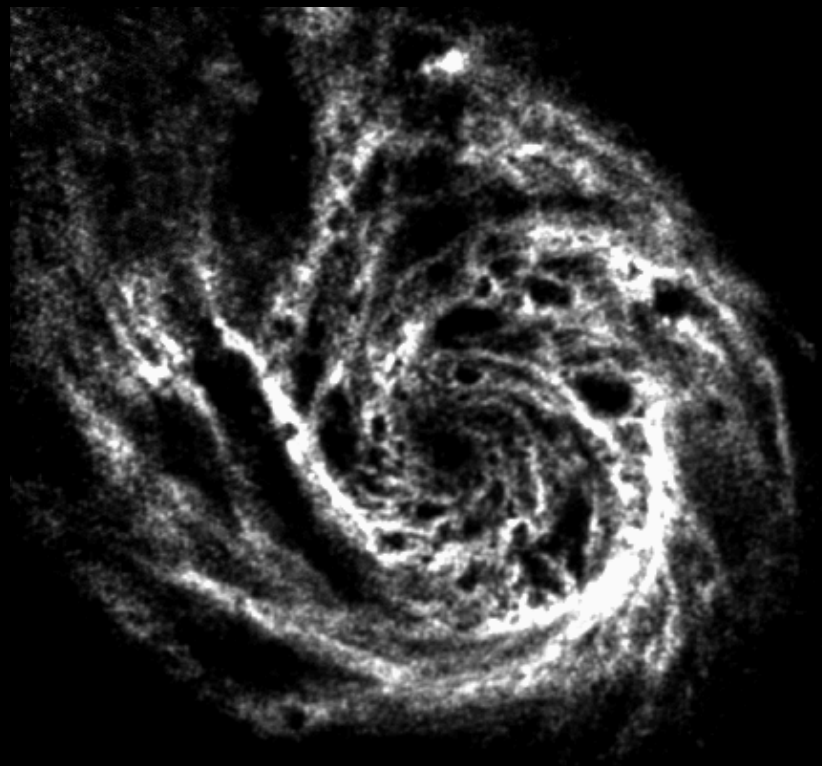
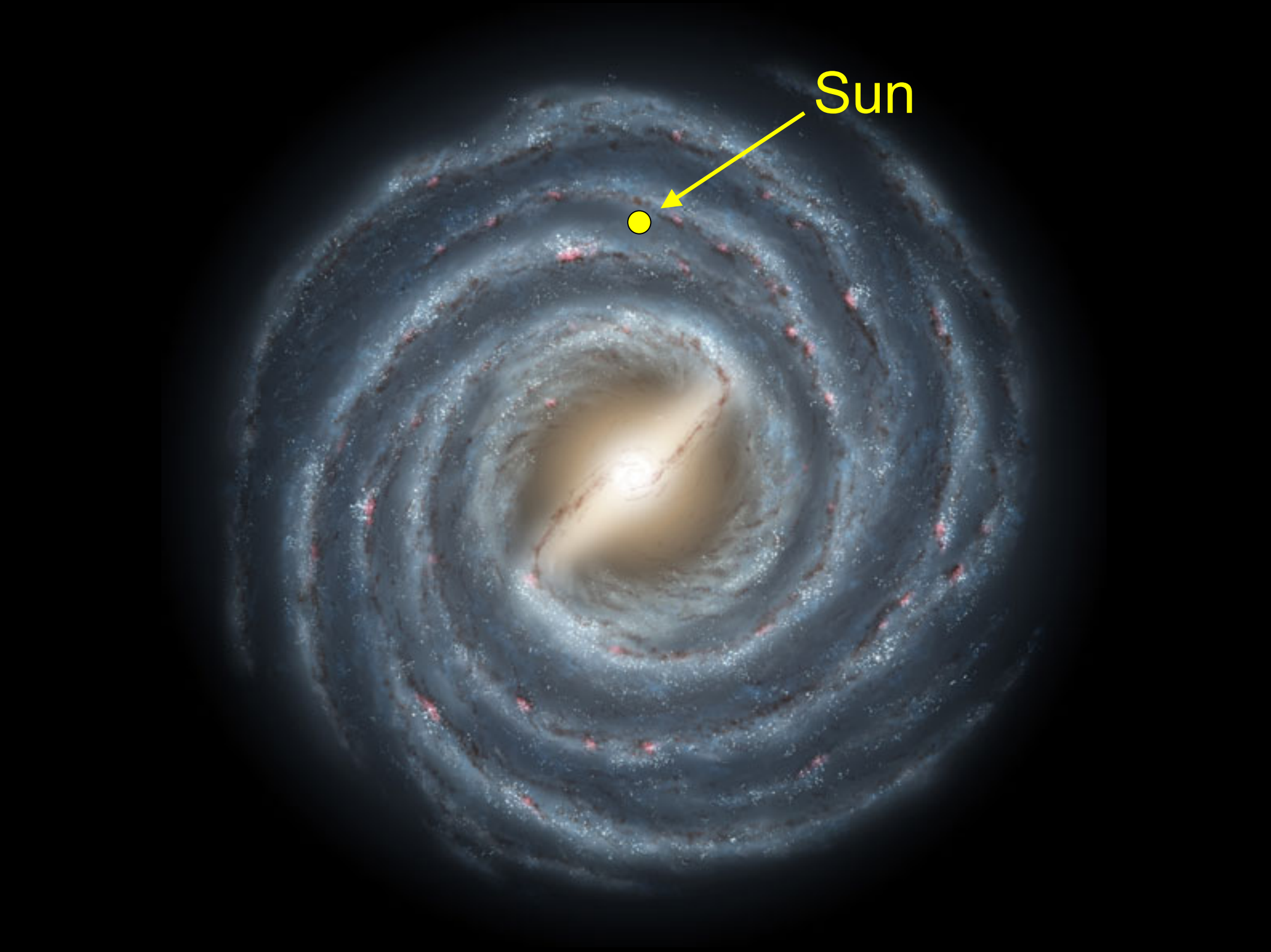


Fig 2.22 (Burton, Dame) 'Galaxies in the Universe' Sparke/Gallagher CUP 2007






Sun