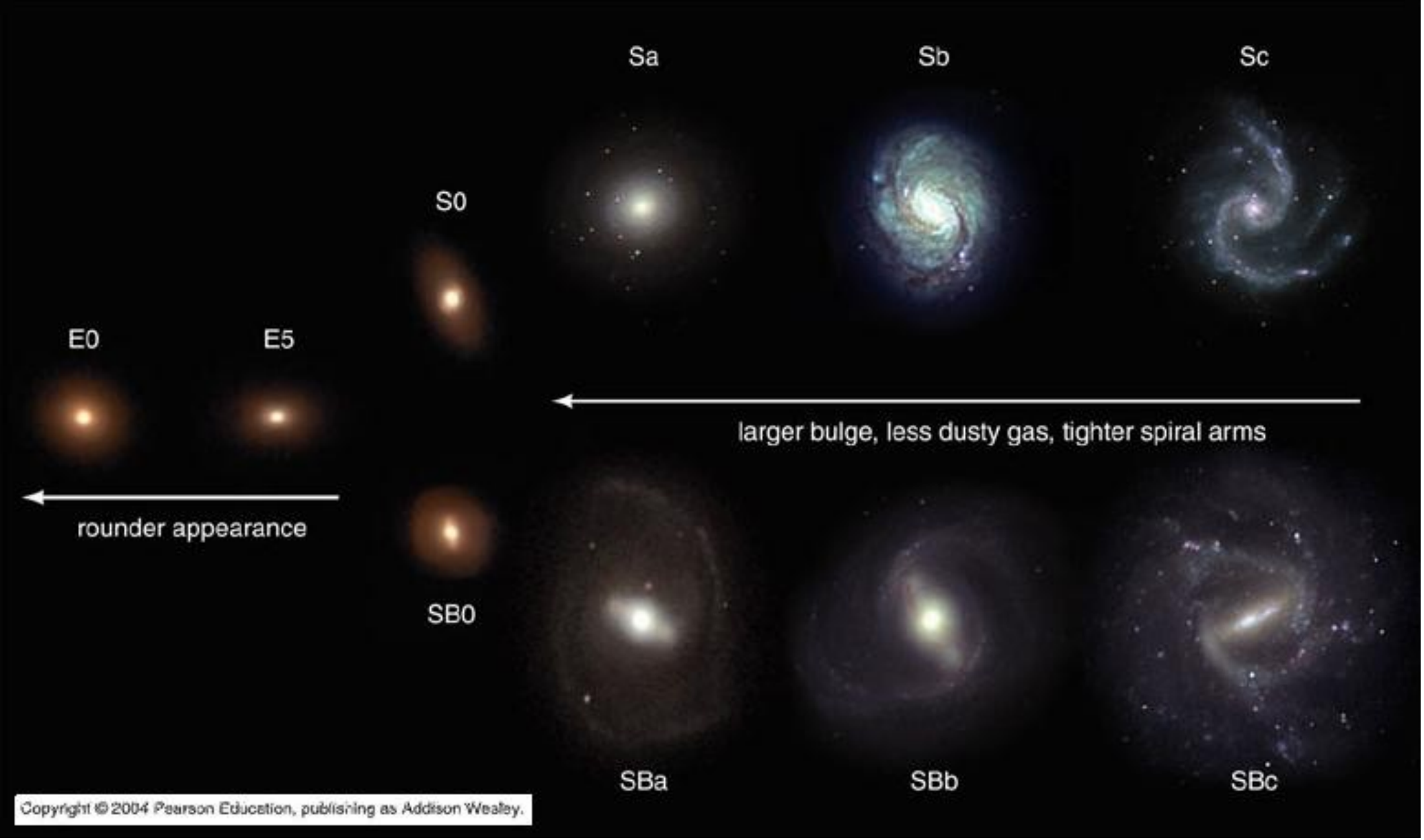
Introdução à Astronomia

Prof. Antônio Kanaan

Aula 11 – 11 junho 2007

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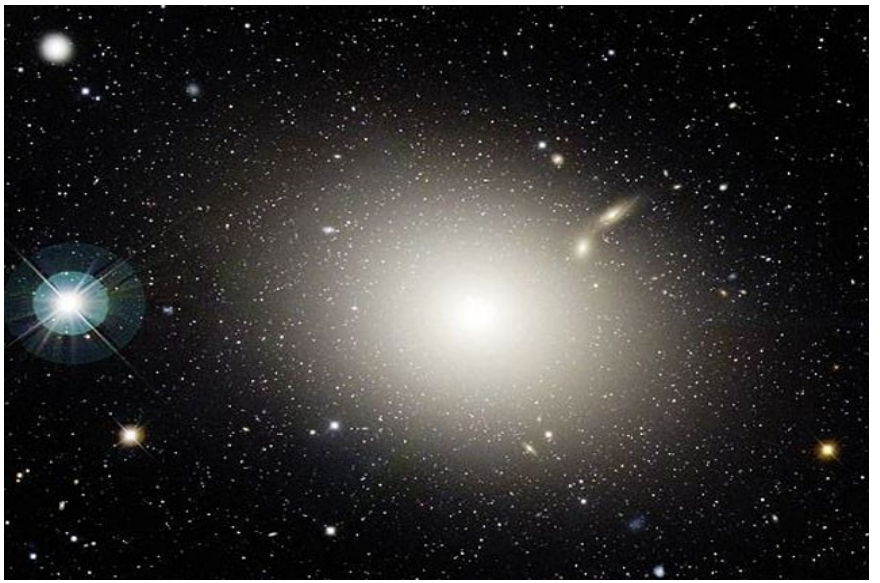
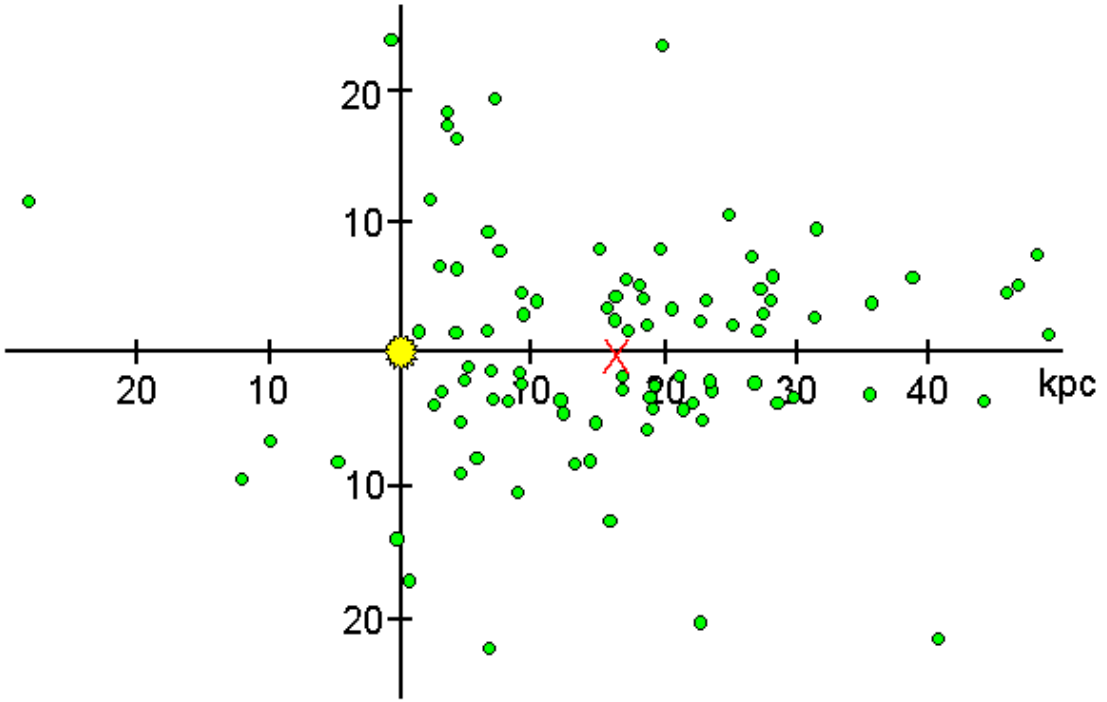
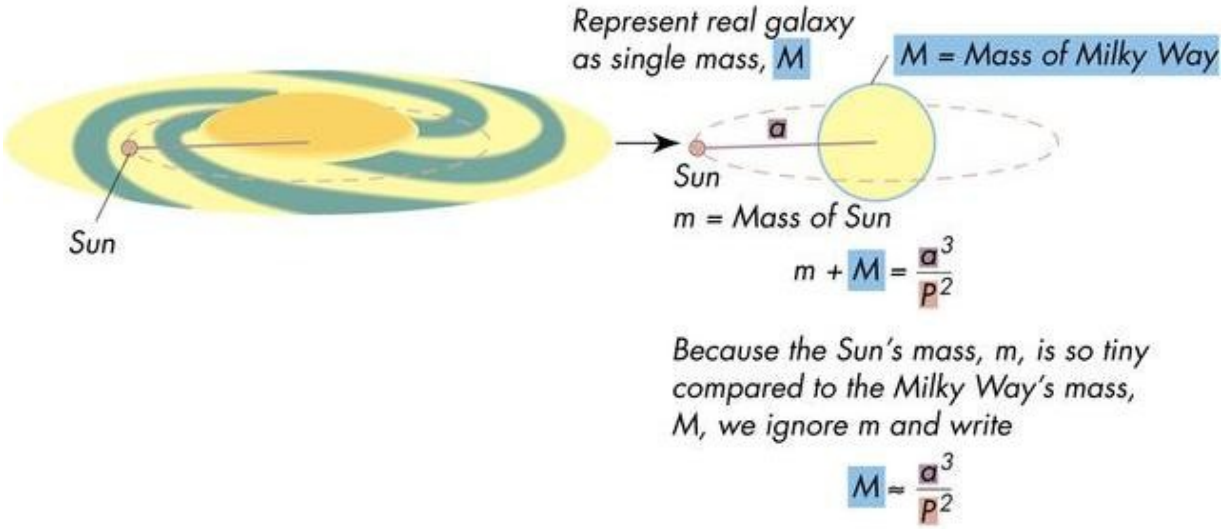


Como se mede o movimento do Sol entre as estrelas já que está todo mundo se movendo?

A massa da Galáxia estimada através dos movimentos.

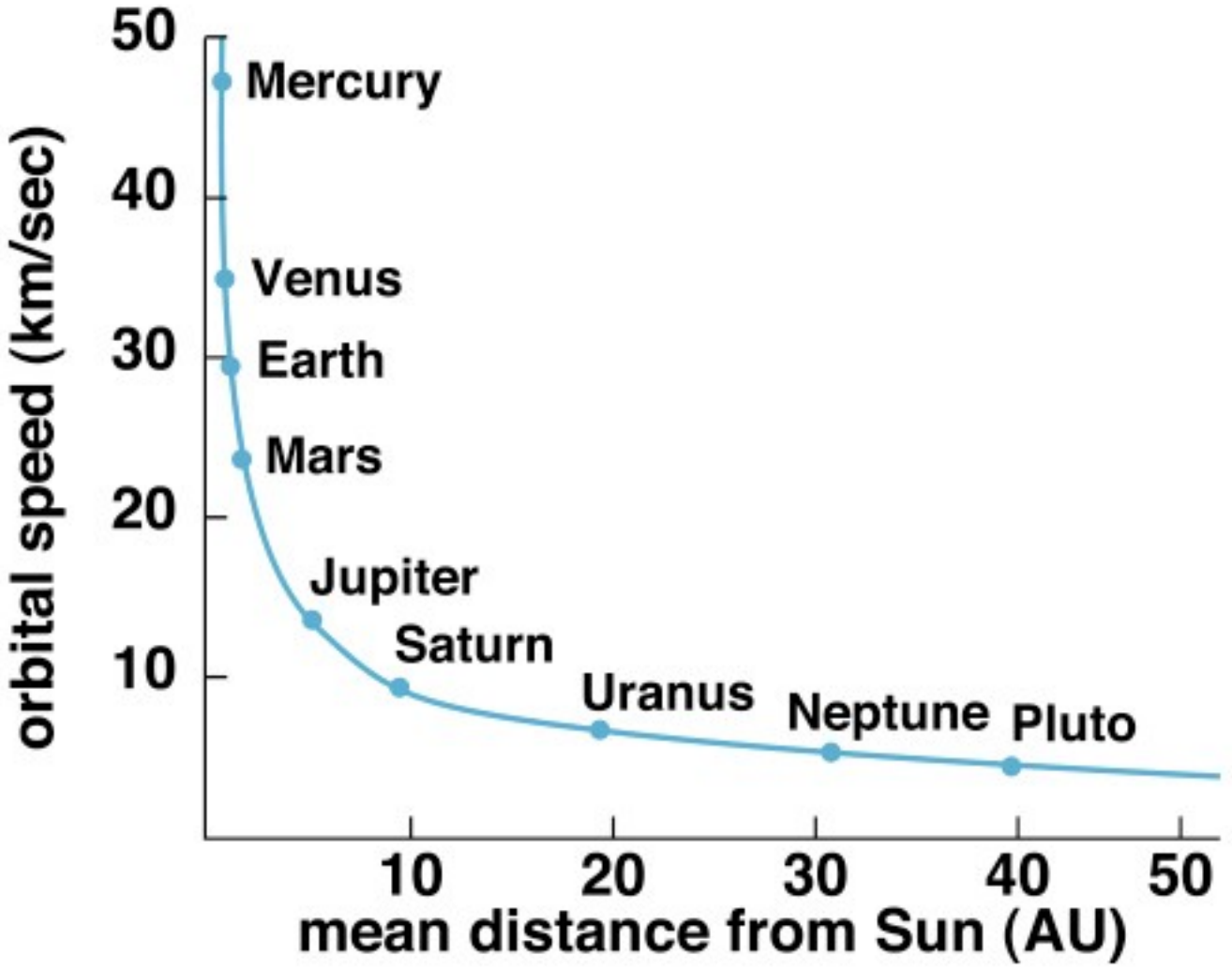
Shapley's Globular Cluster Distribution



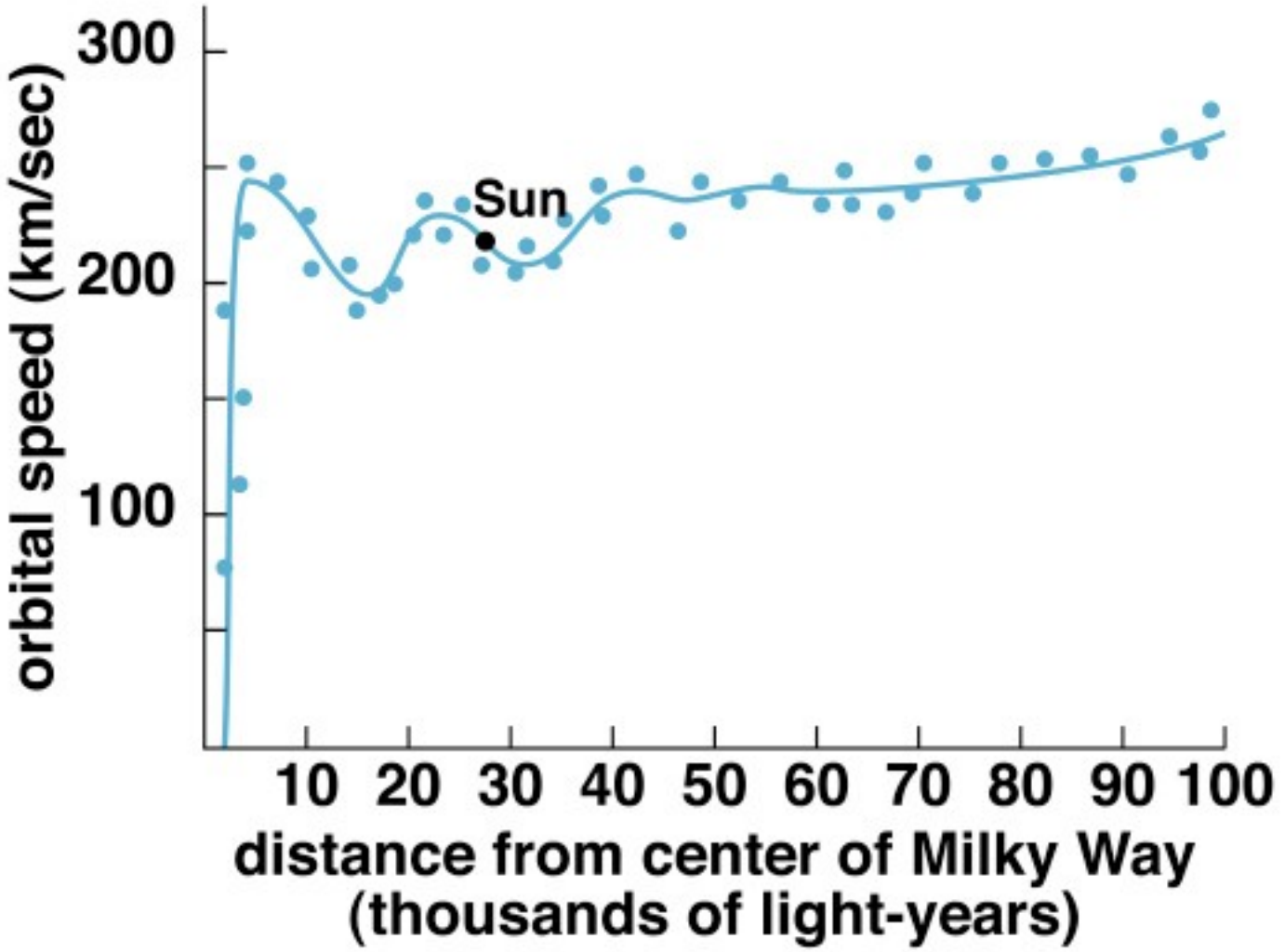


$P = 2\pi R/V =$ about 240 Myrs

$$\begin{aligned} M &= \frac{a(AU)^3}{P(yr)^2} \\ &= \frac{(2\times 10^9)^3}{(2.4\times 10^8)^2} \\ &\sim 10^{11} M_\odot \end{aligned}$$

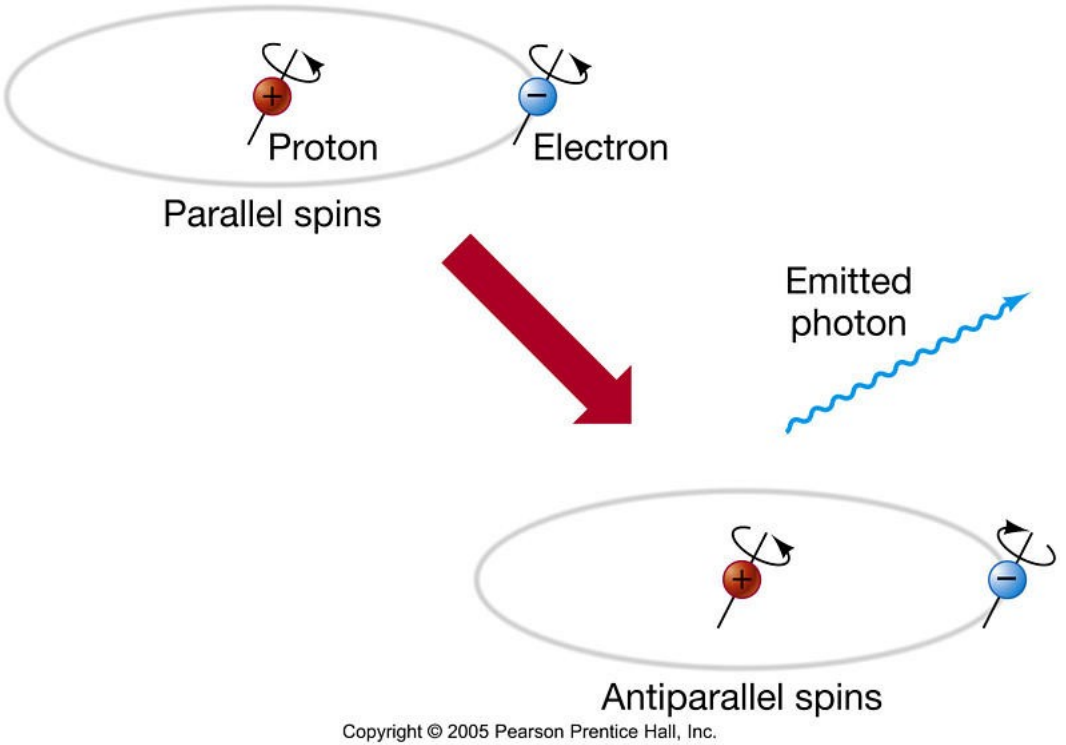


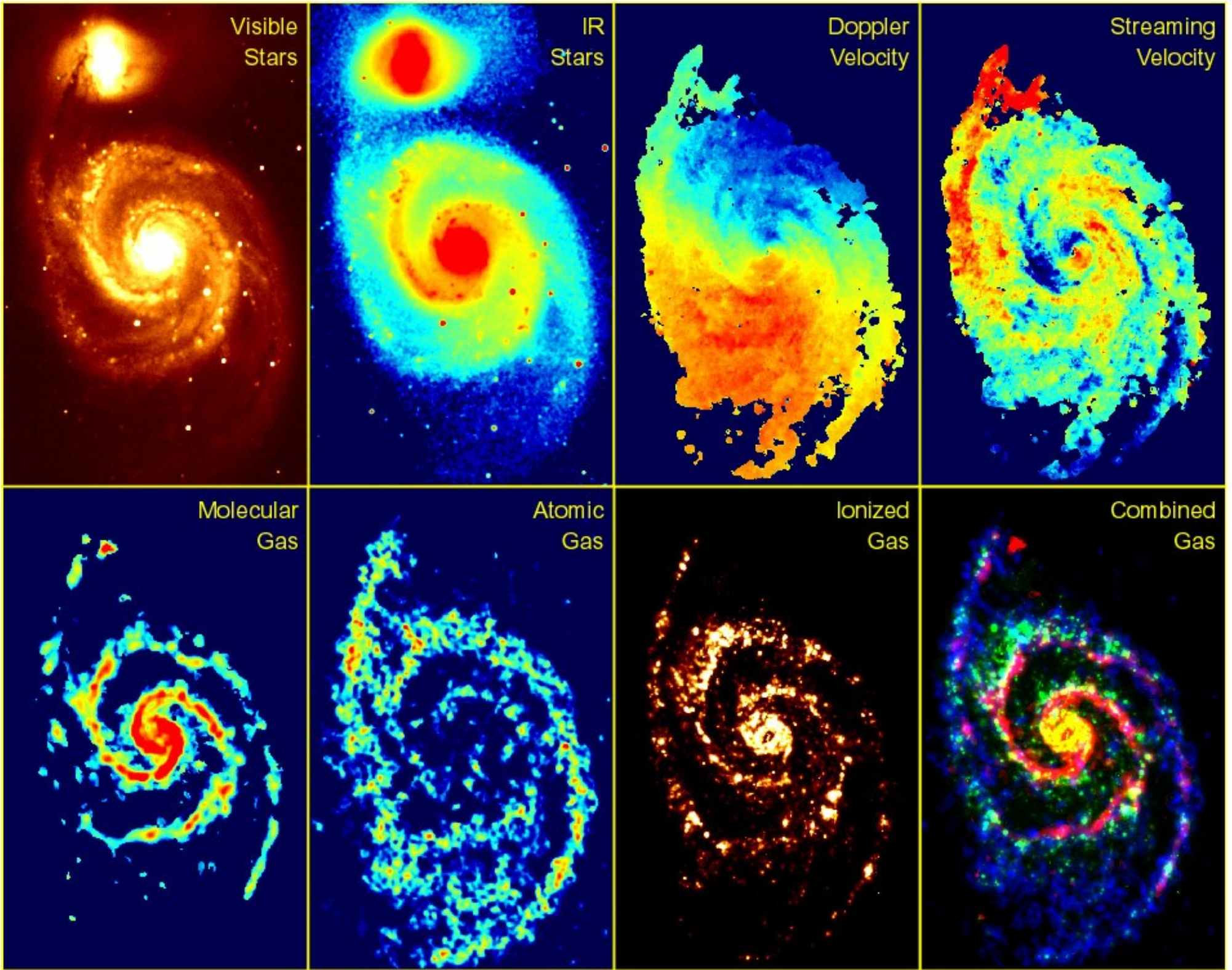
(b)

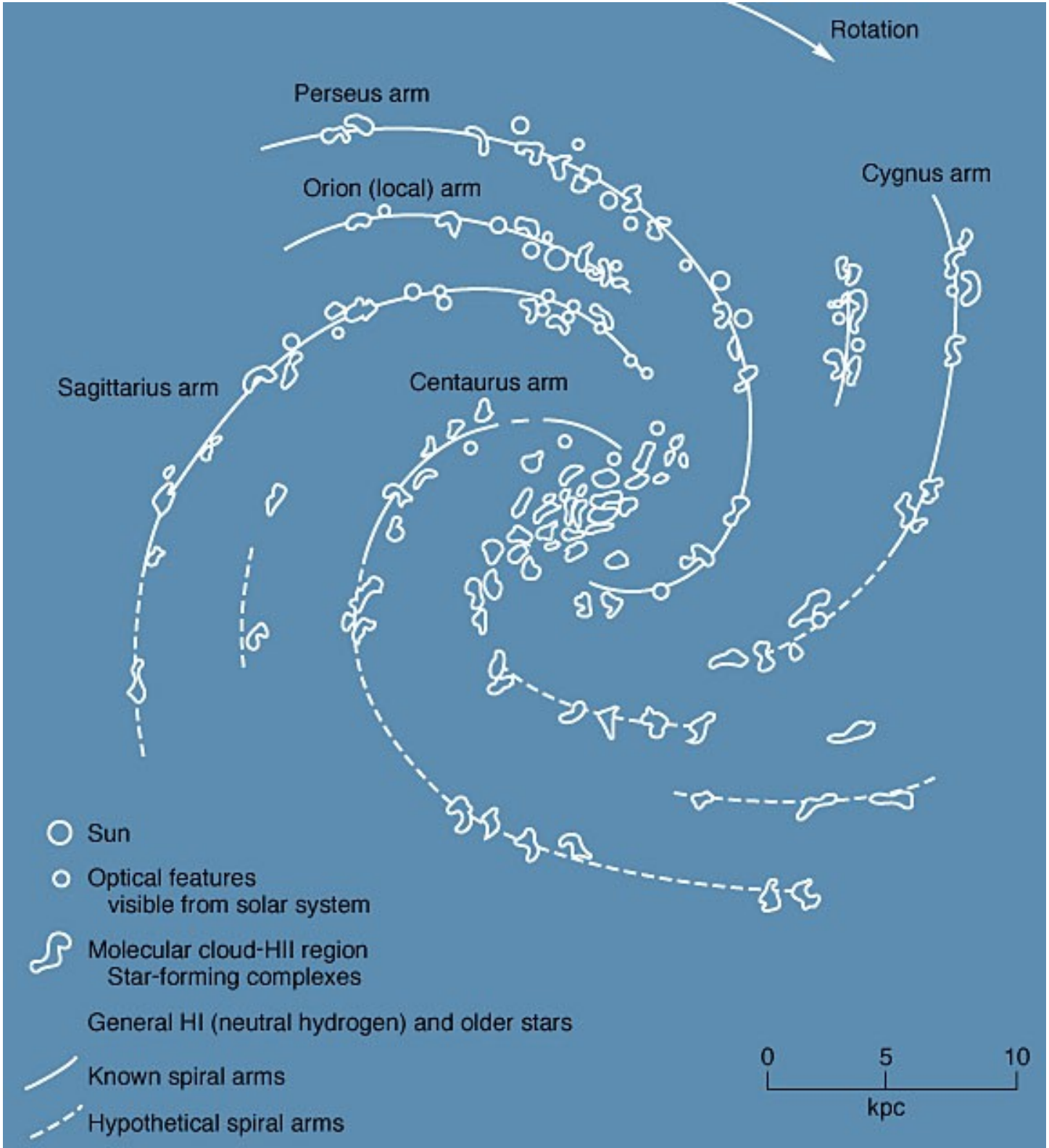


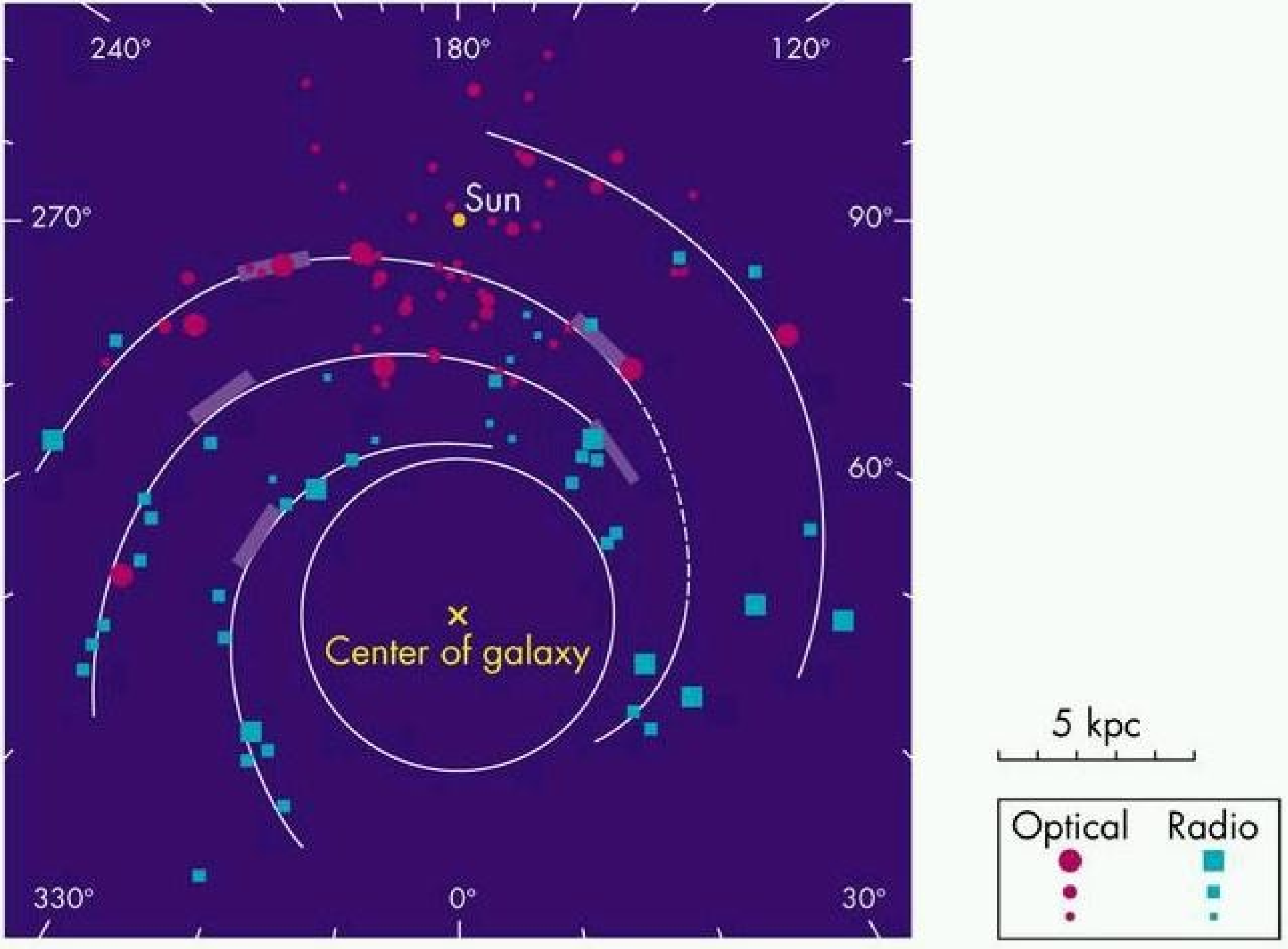
(c)

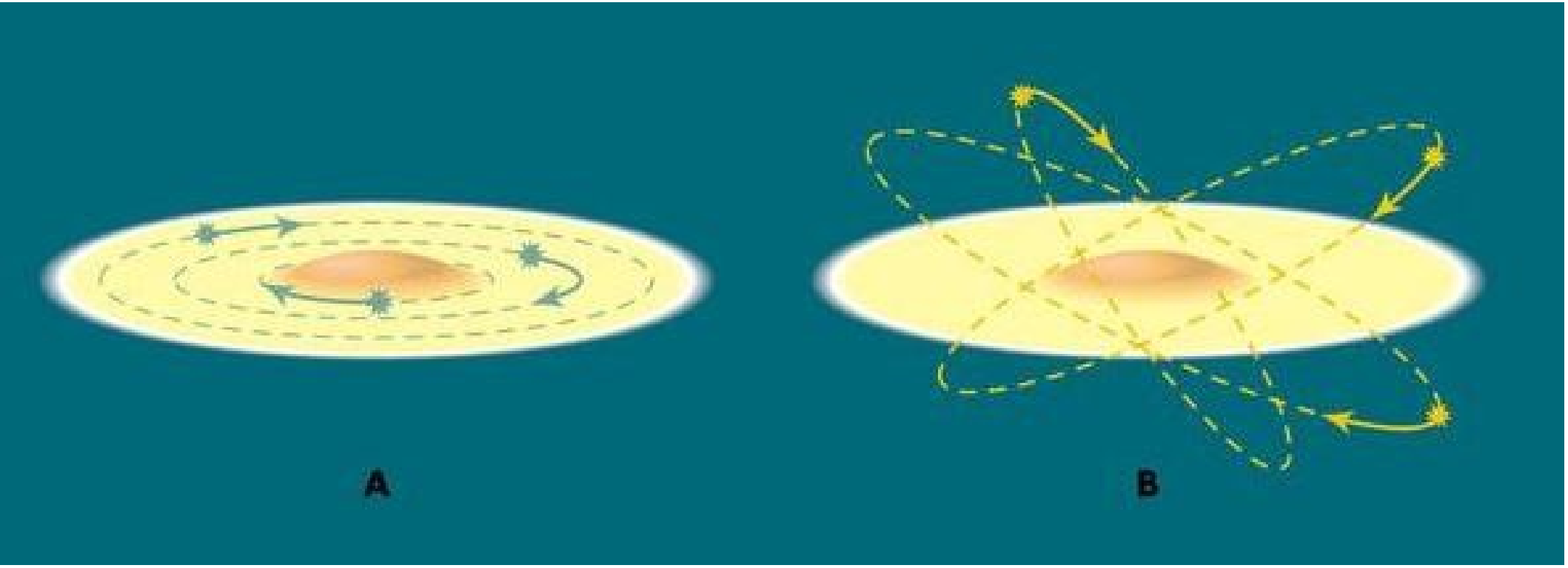
Mapeando os braćos da Galáxia usando HI (hidrogênio neutro)




Visible Stars
IR Stars
Doppler Velocity
Streaming Velocity
Molecular Gas
Atomic Gas
Ionized Gas
Combined Gas


Rotation
Perseus arm
Orion (local) arm
Cygnus arm
Sagittarius arm
Centaurus arm
Sun
Optical features visible from solar system
Molecular cloud-HII region Star-forming complexes
General HI (neutral hydrogen) and older stars
Known spiral arms
Hypothetical spiral arms
0
5
10
kpc


240°
180°
120°
270°
Sun
90°
60°
Center of galaxy
330°
0°
30°
5 kpc
Optical
Radio


A
B