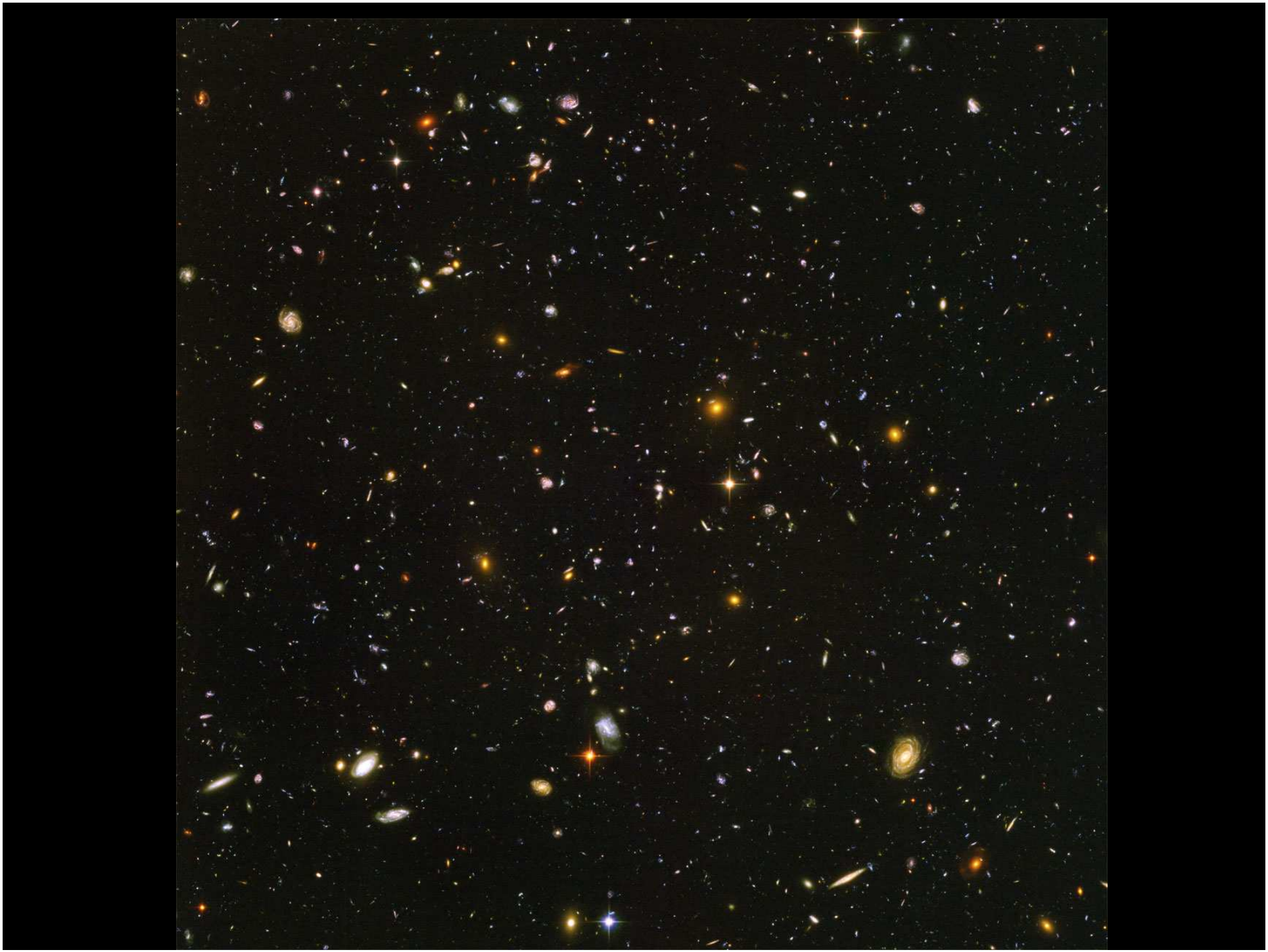
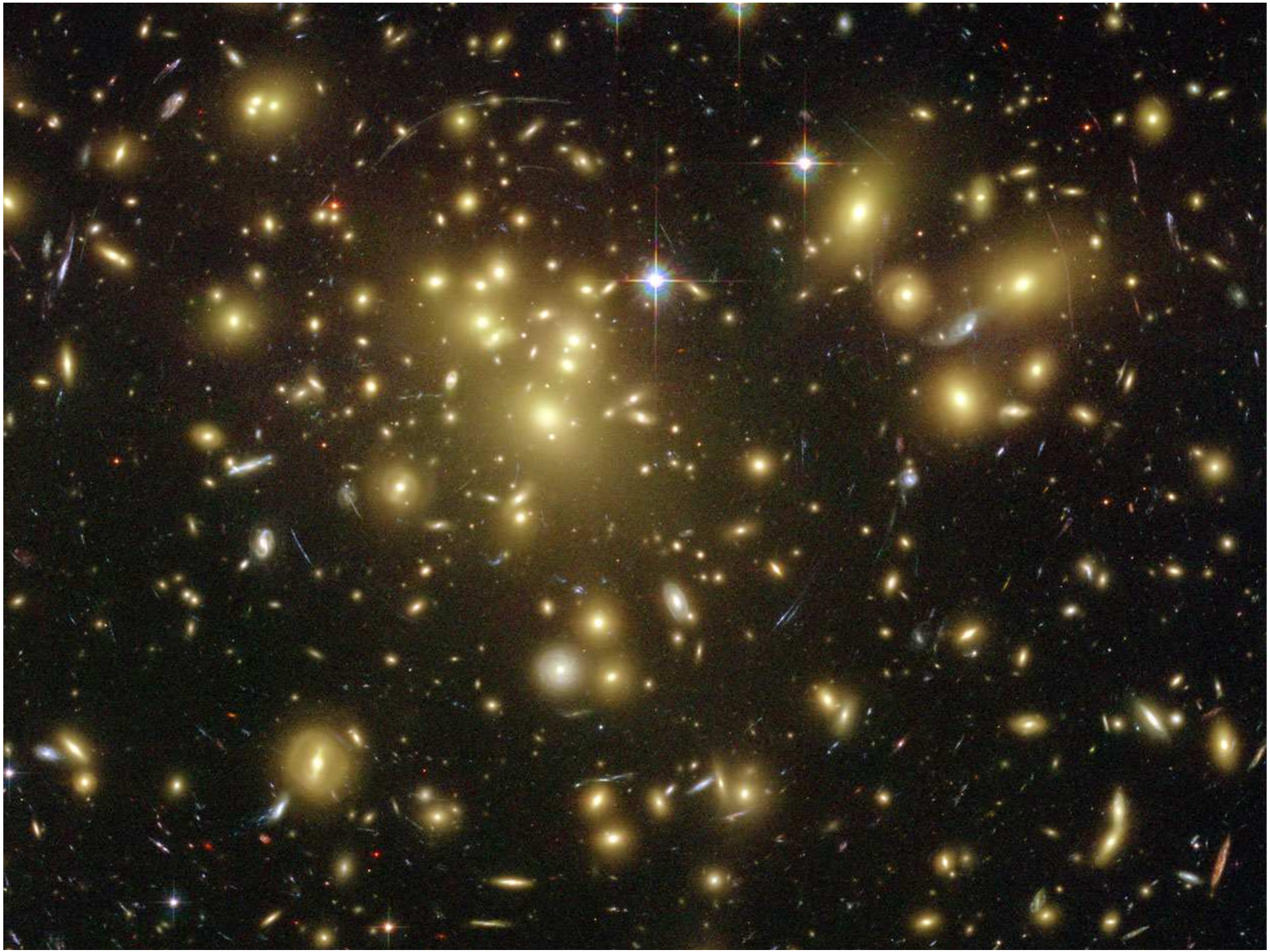
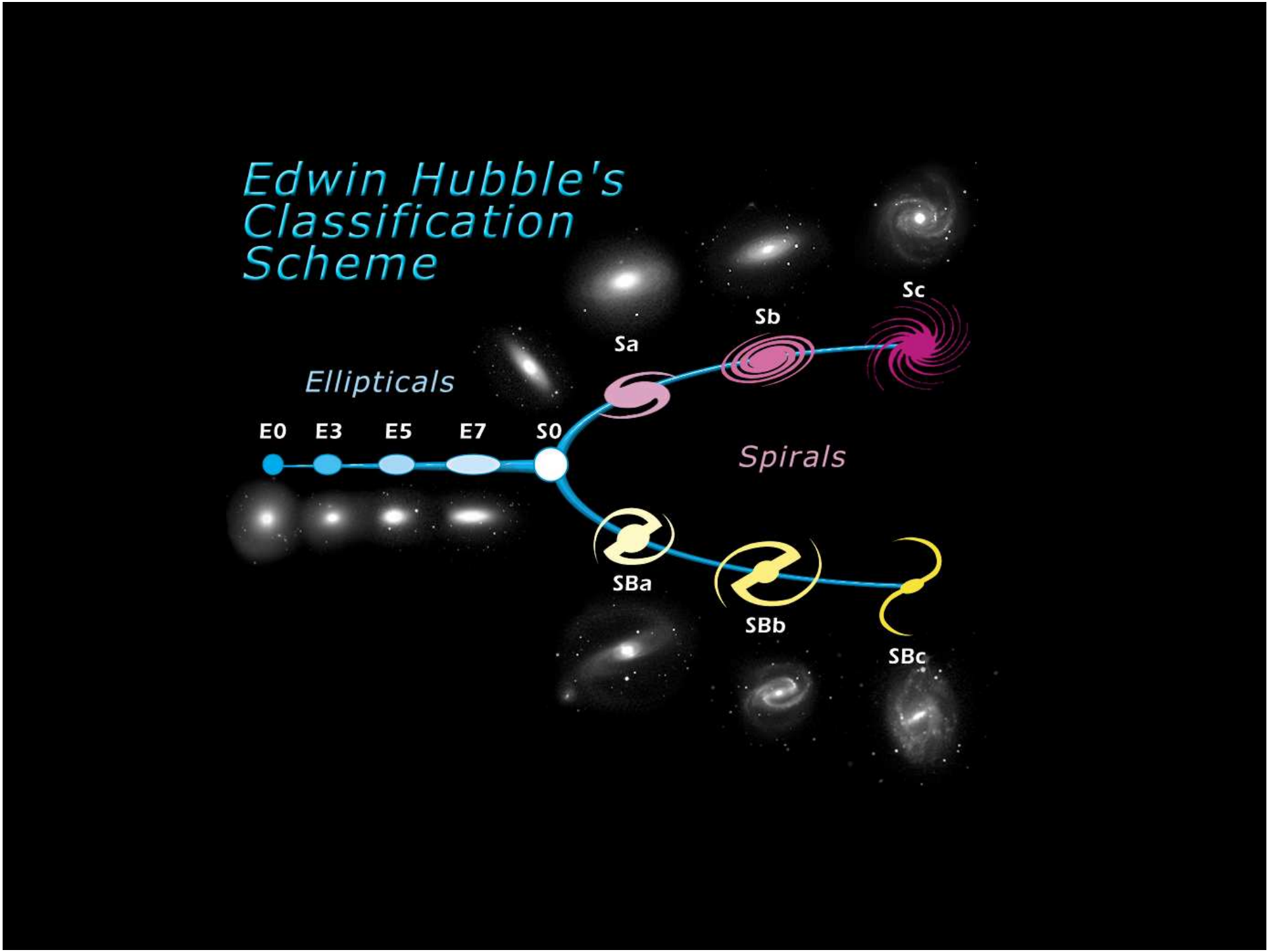
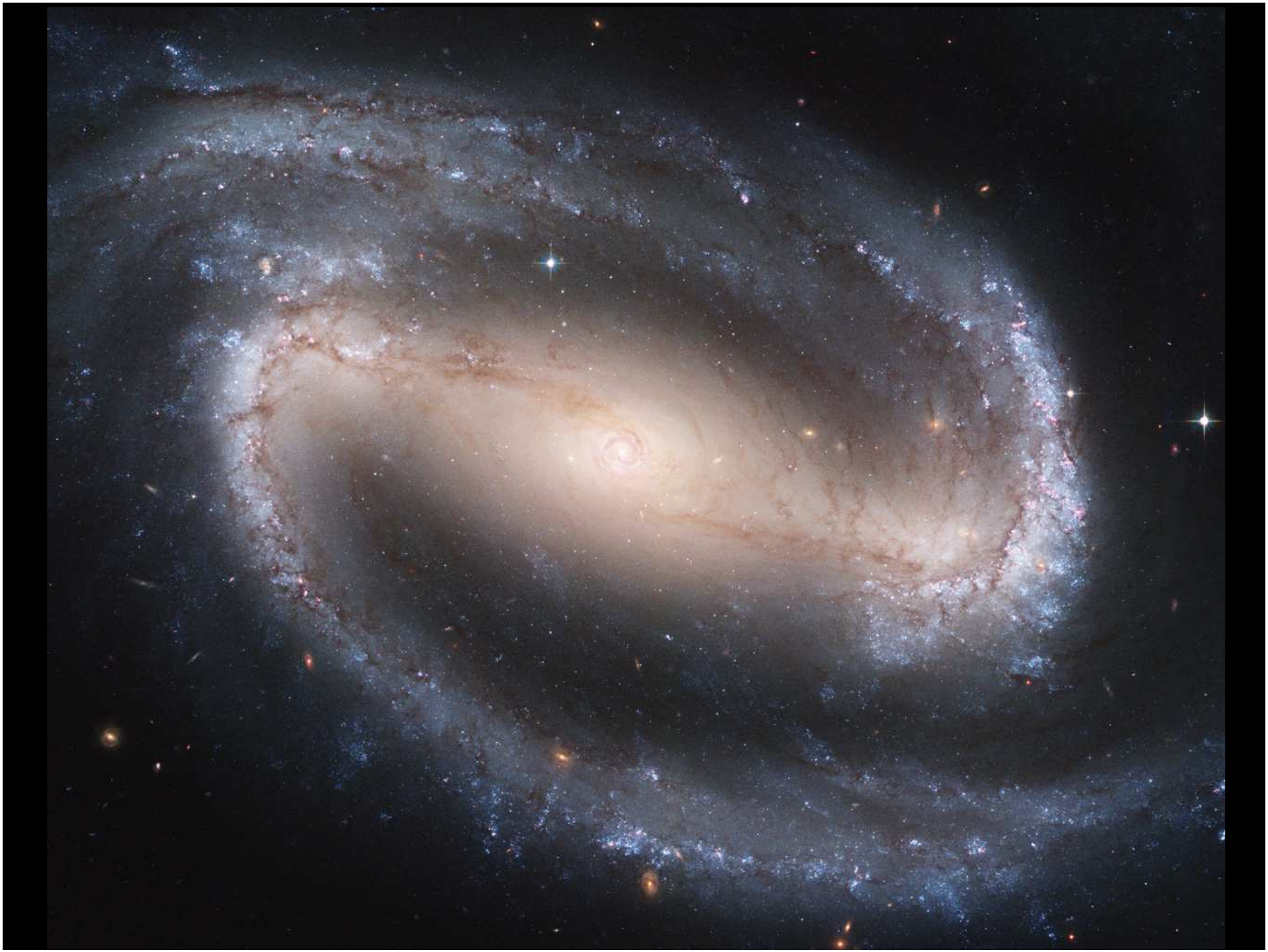
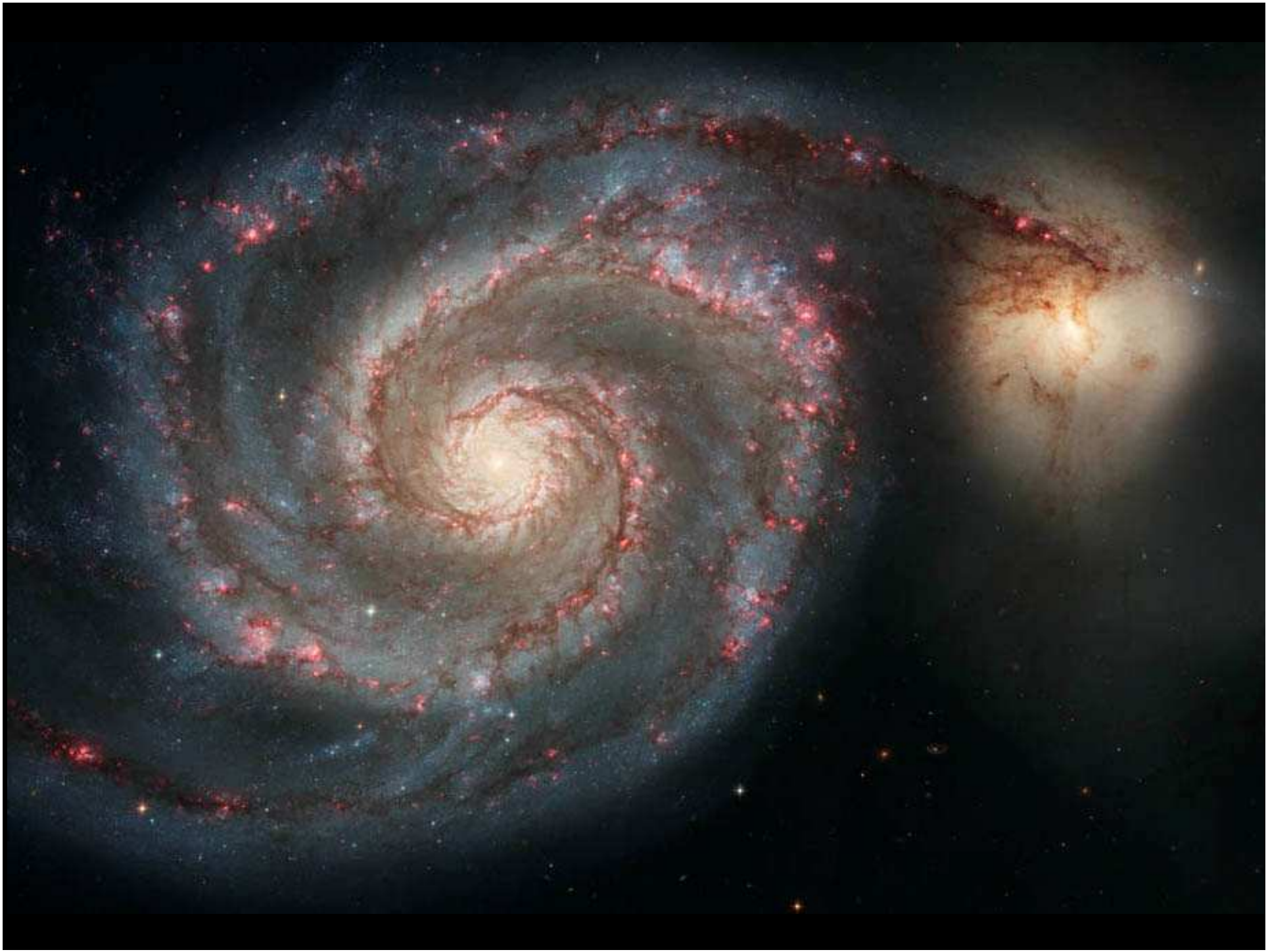

Voyage au cœur des
galaxies

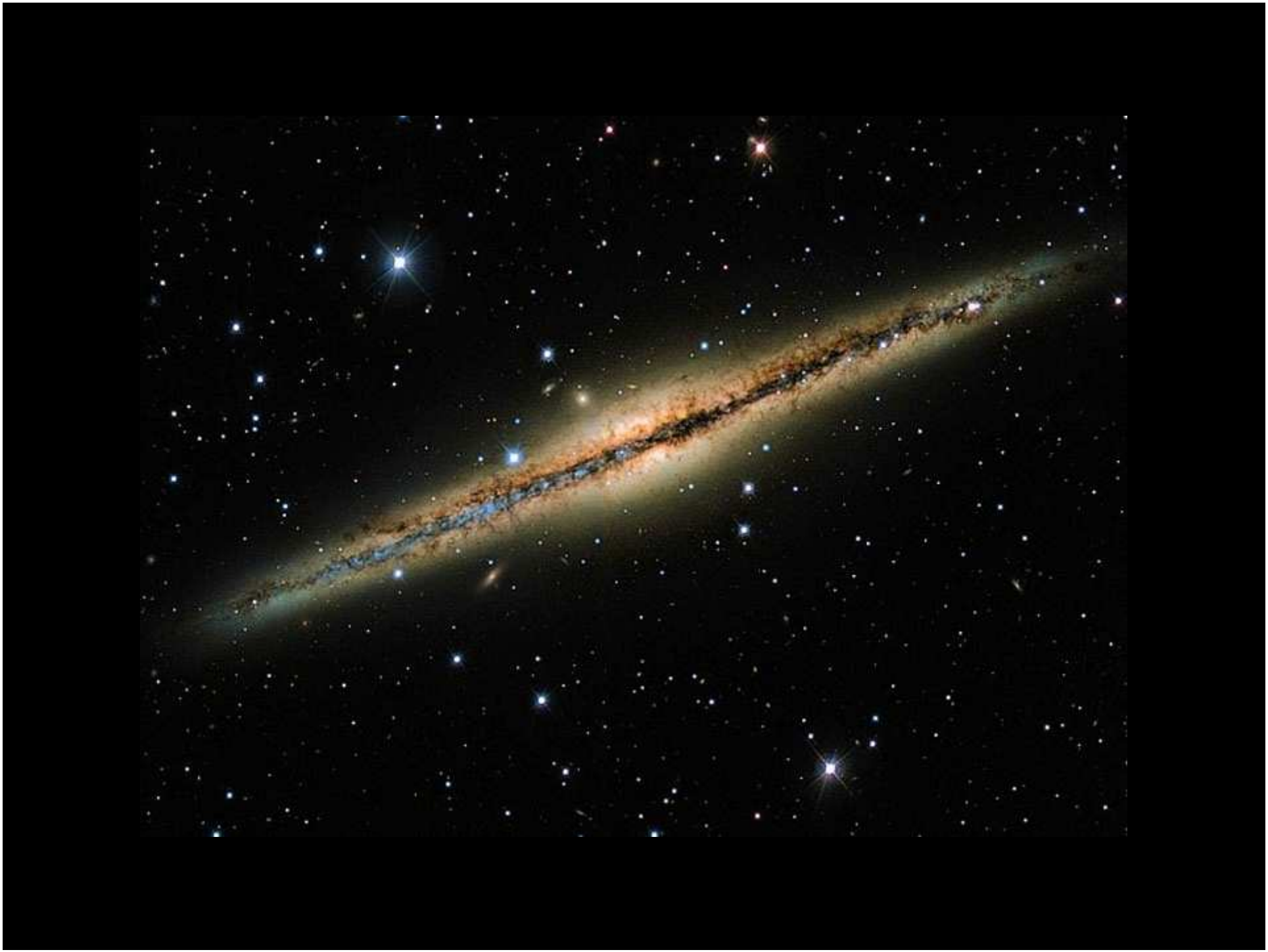




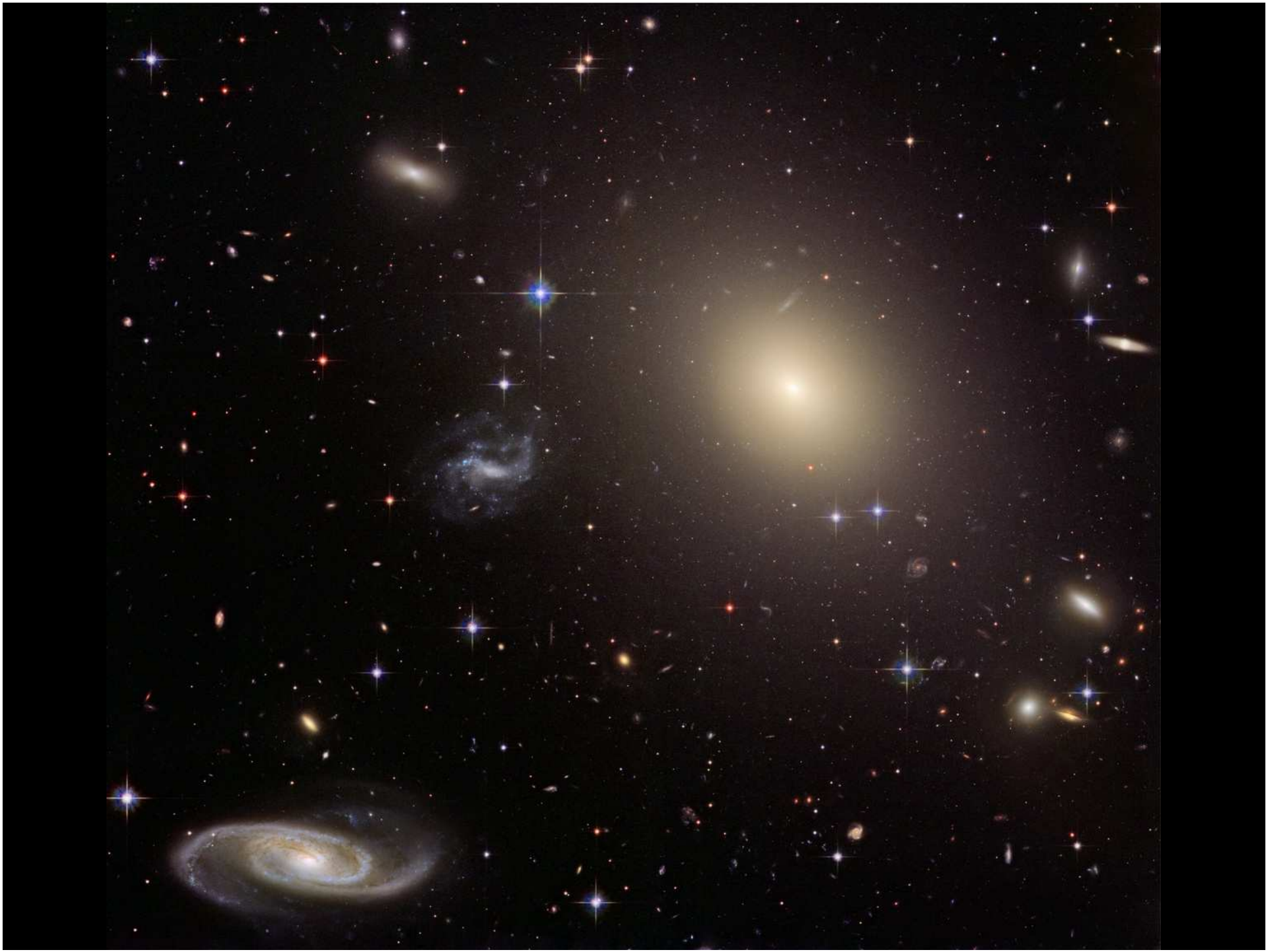

Edwin Hubble's Classification Scheme
Ellipticals
E0
E3
E5
E7
S0
Sa
Sb
Sc
Spirals
SBa
SBb
SBc







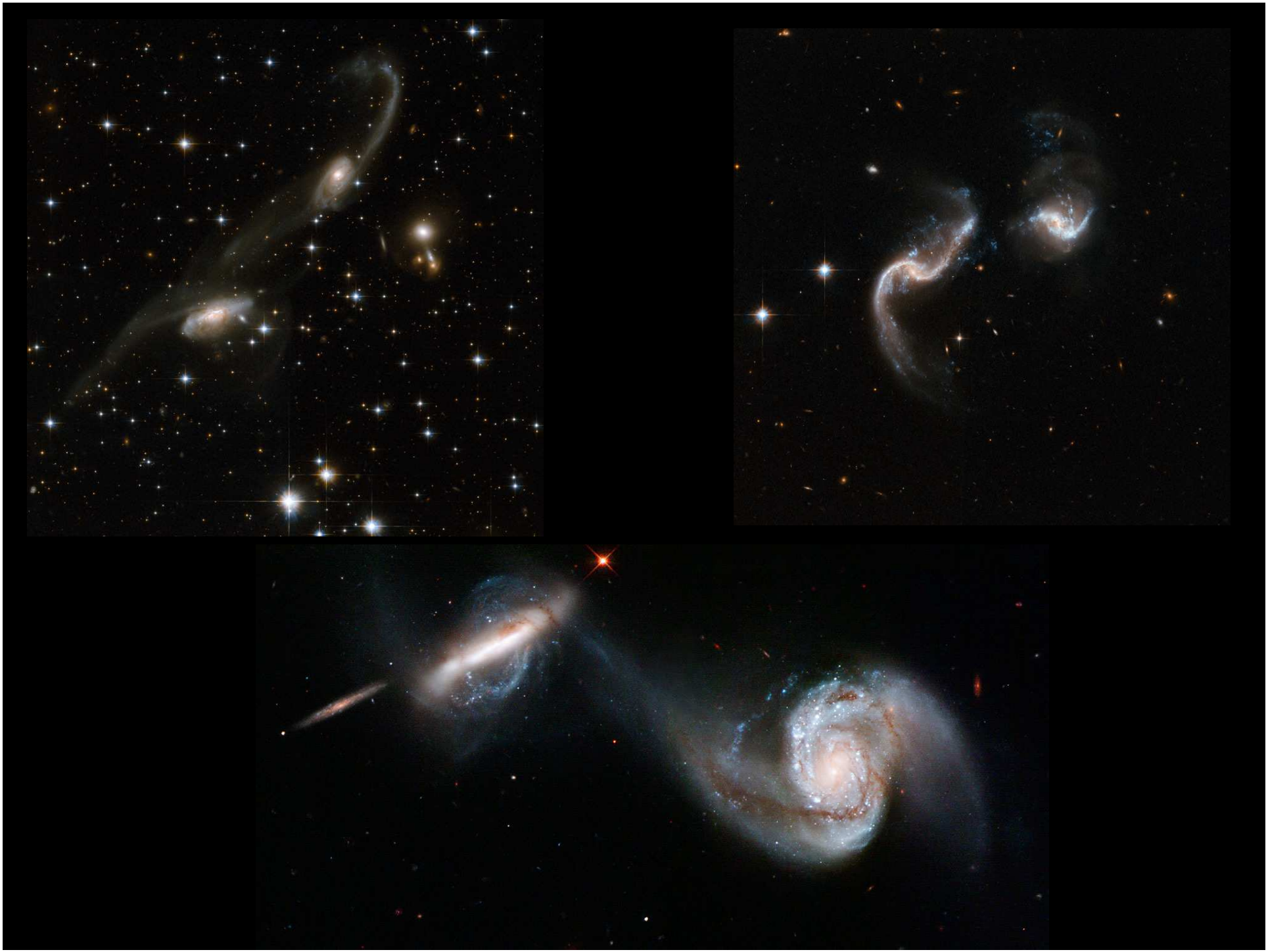

© Stéphane Guisard

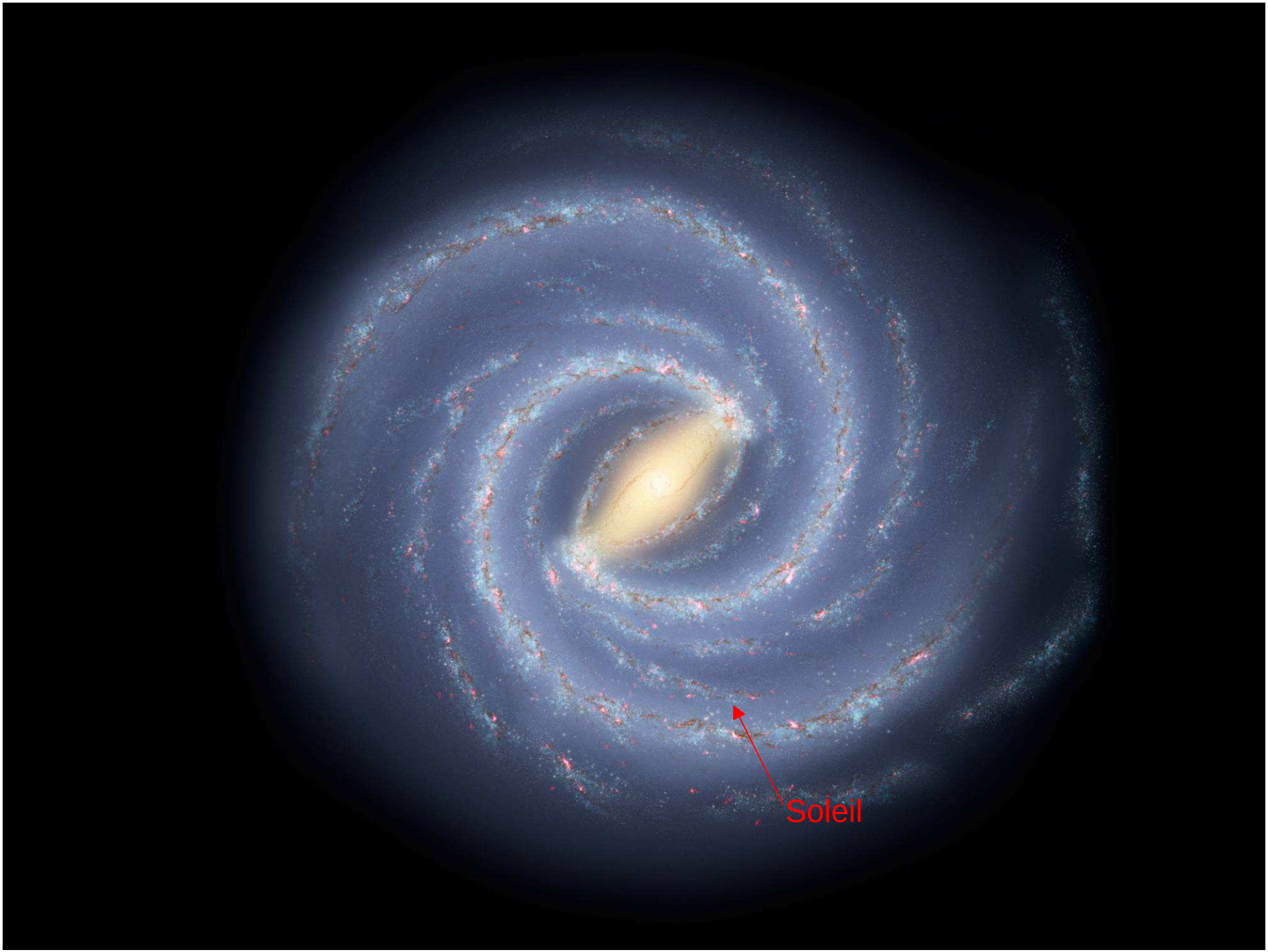


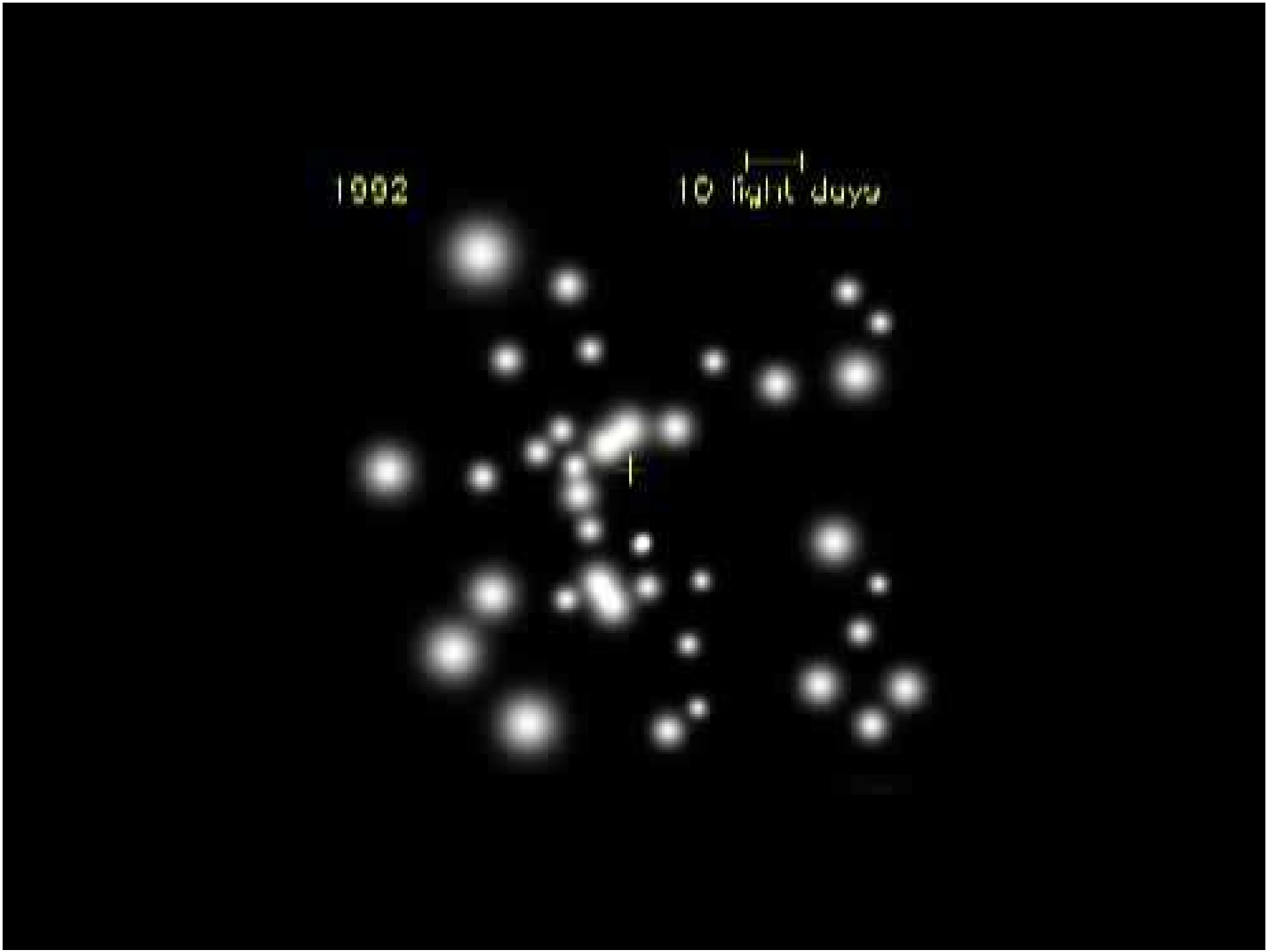
Galaxies NGC 2207 and IC 2163

Hubble Heritage

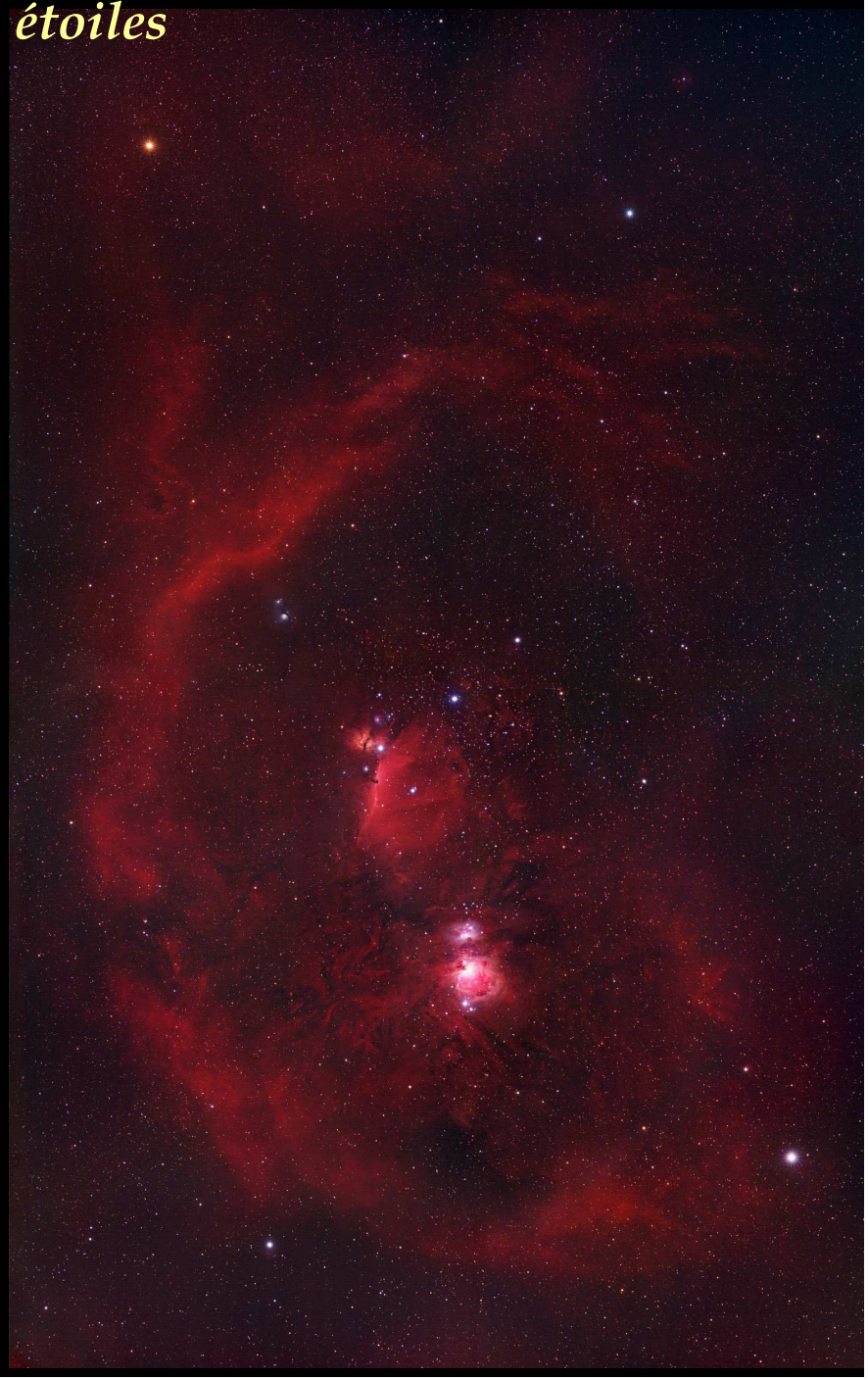
NASA and The Hubble Heritage Team (STScI) • Hubble Space Telescope WFPC2 • STScI-PRC99-41

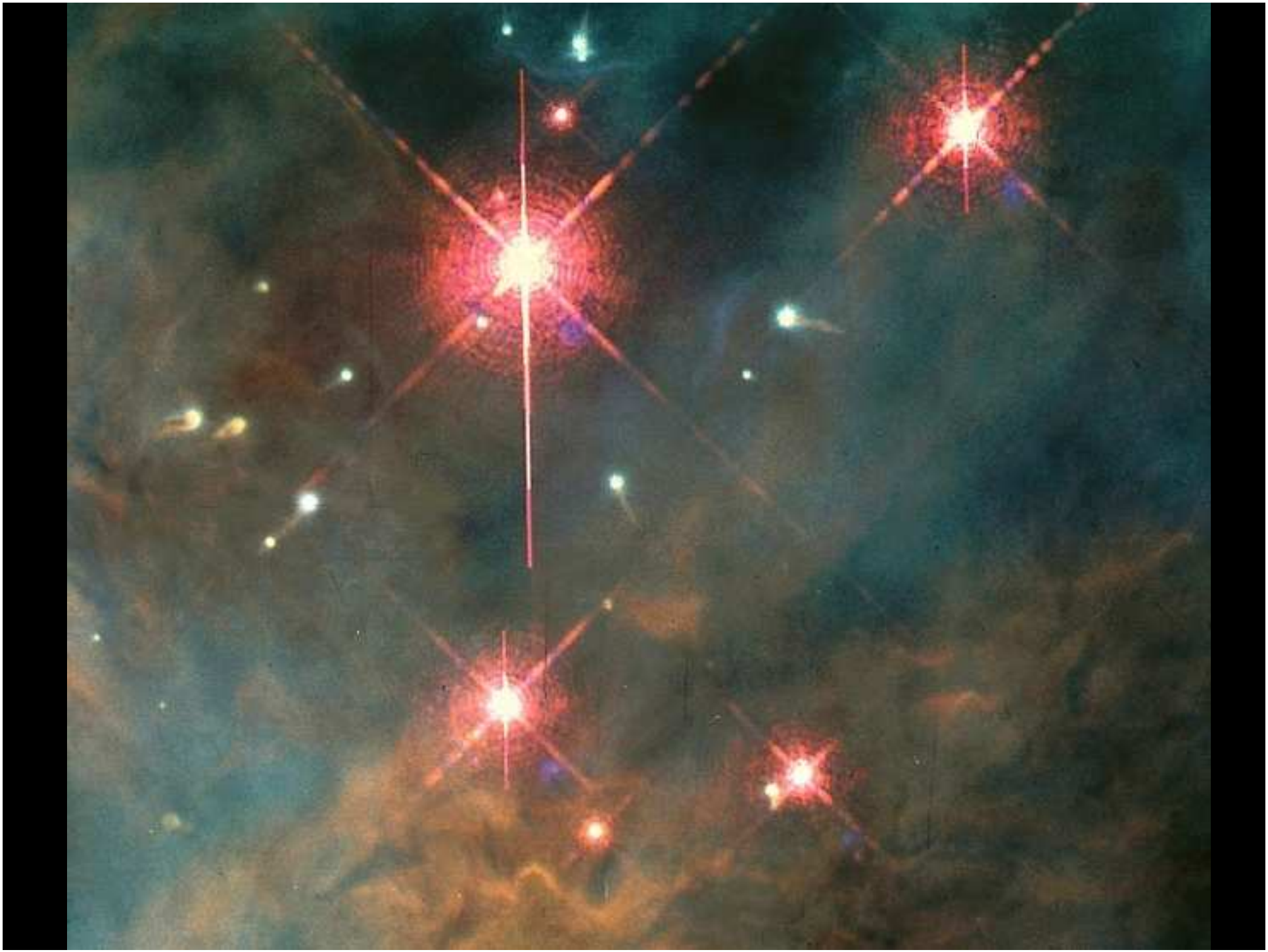


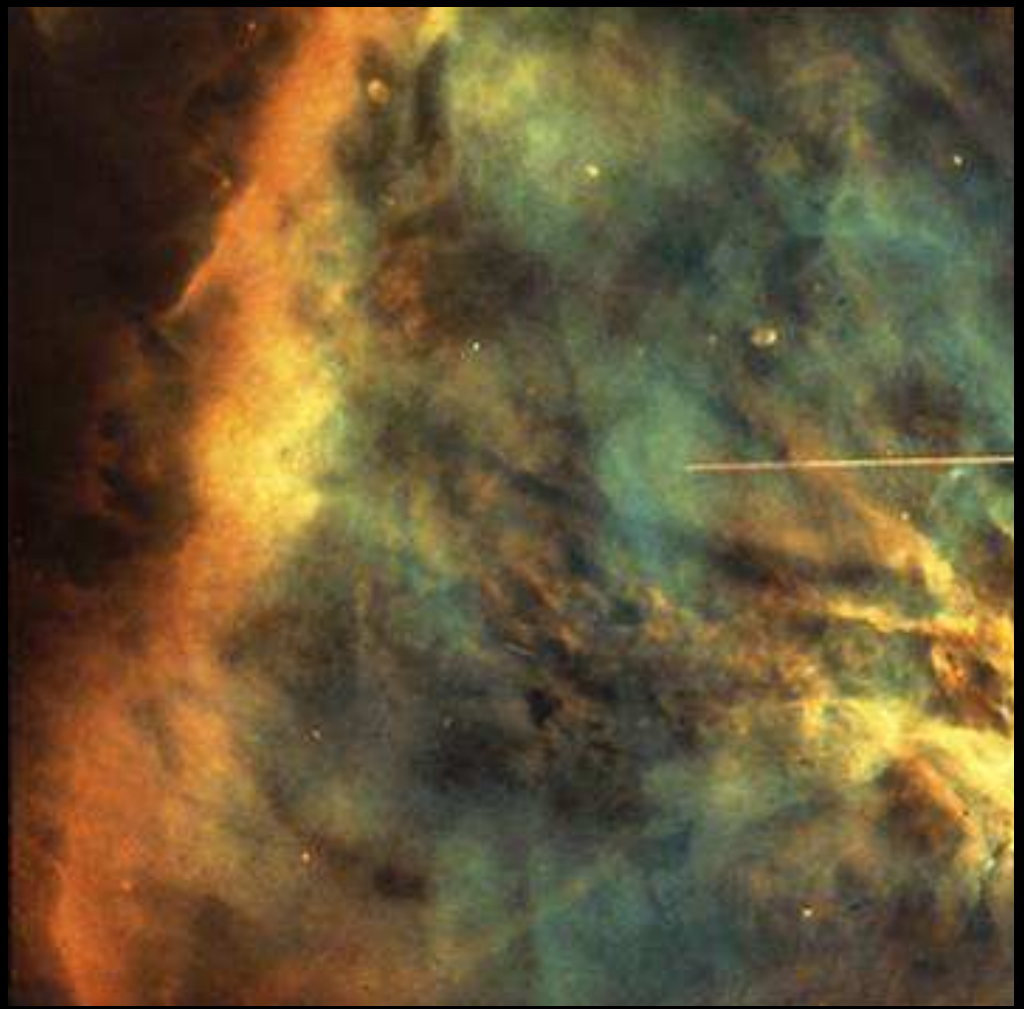

Soleil

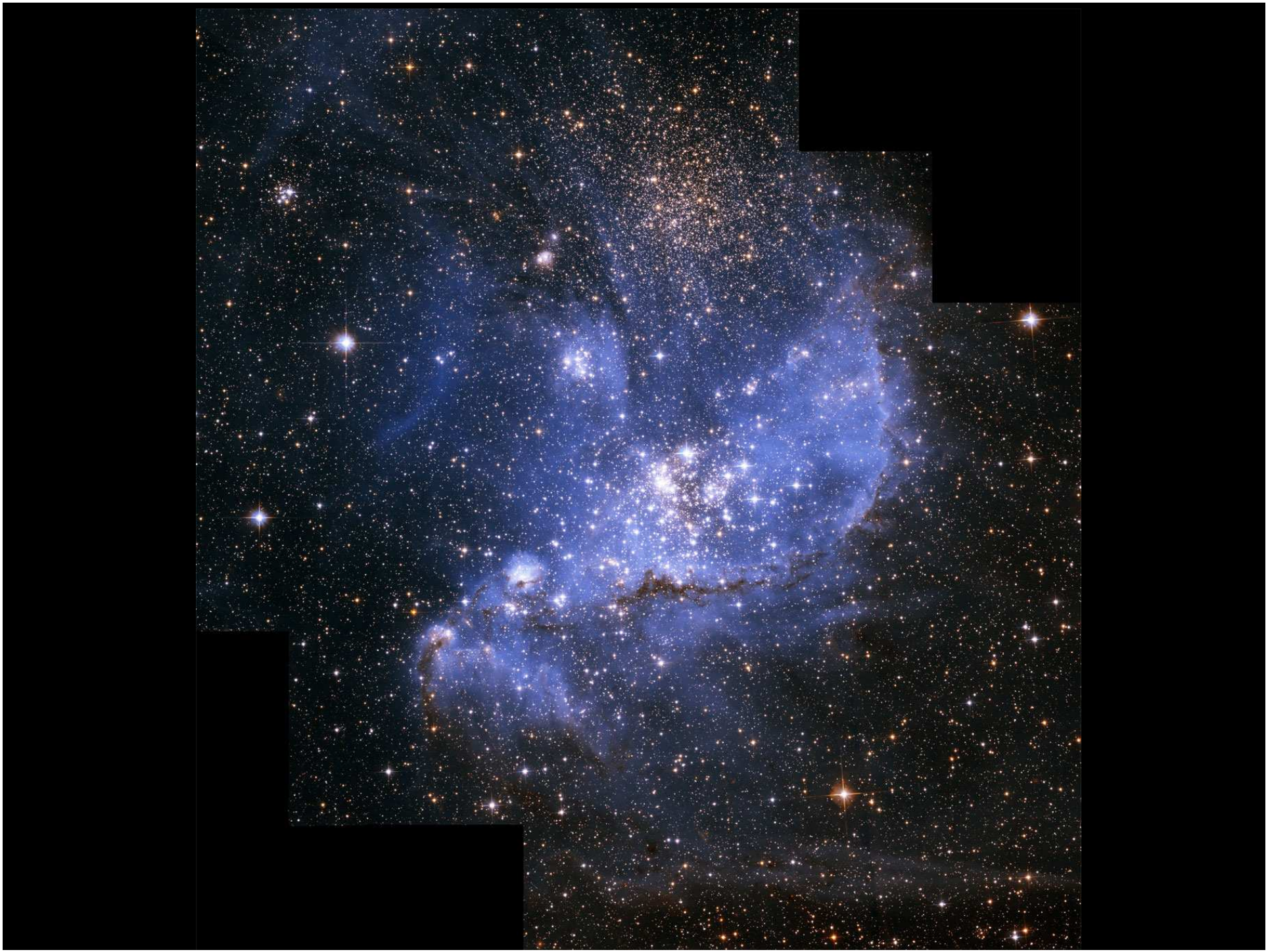

1992
10 light days

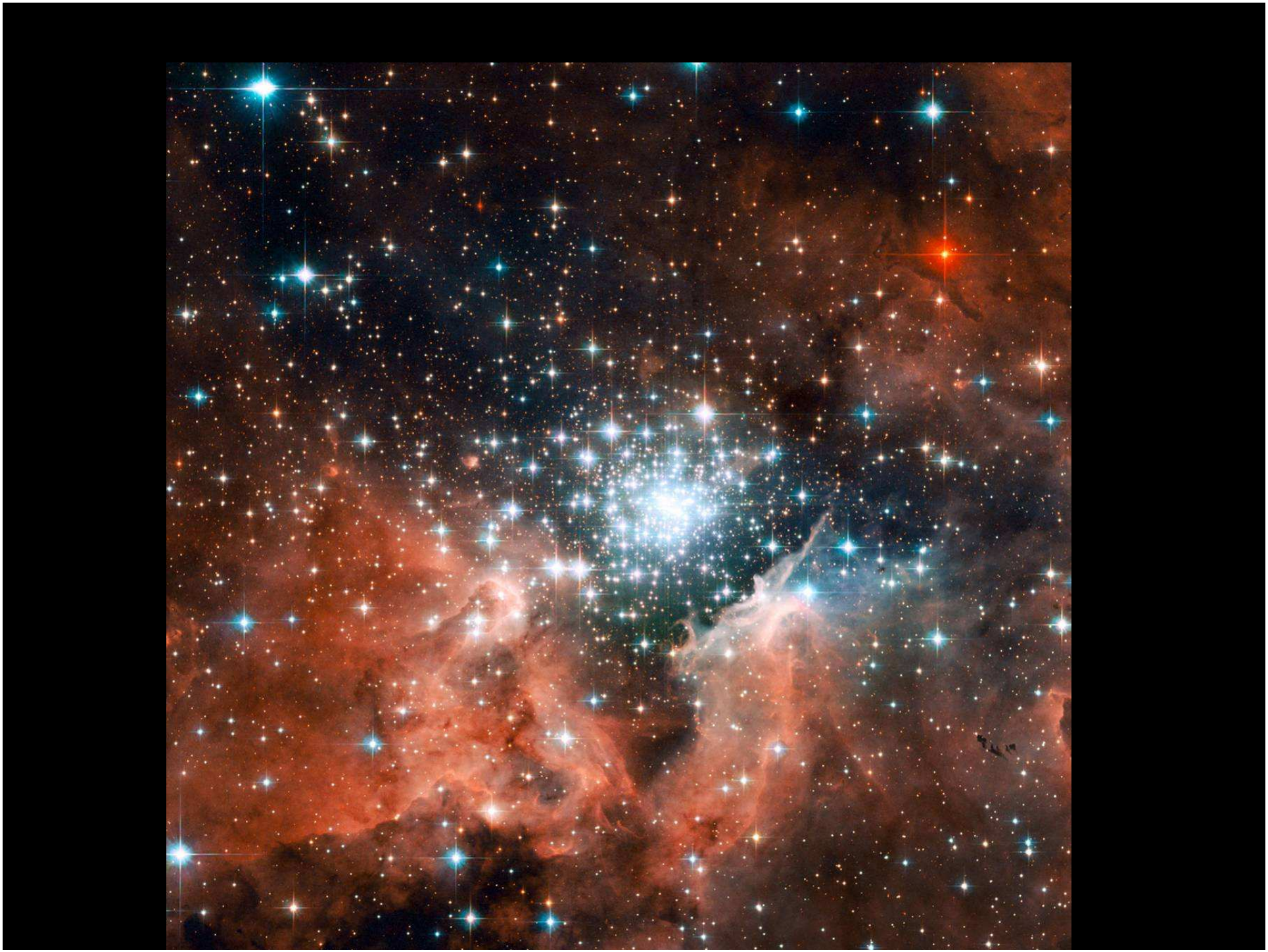
La formation des étoiles

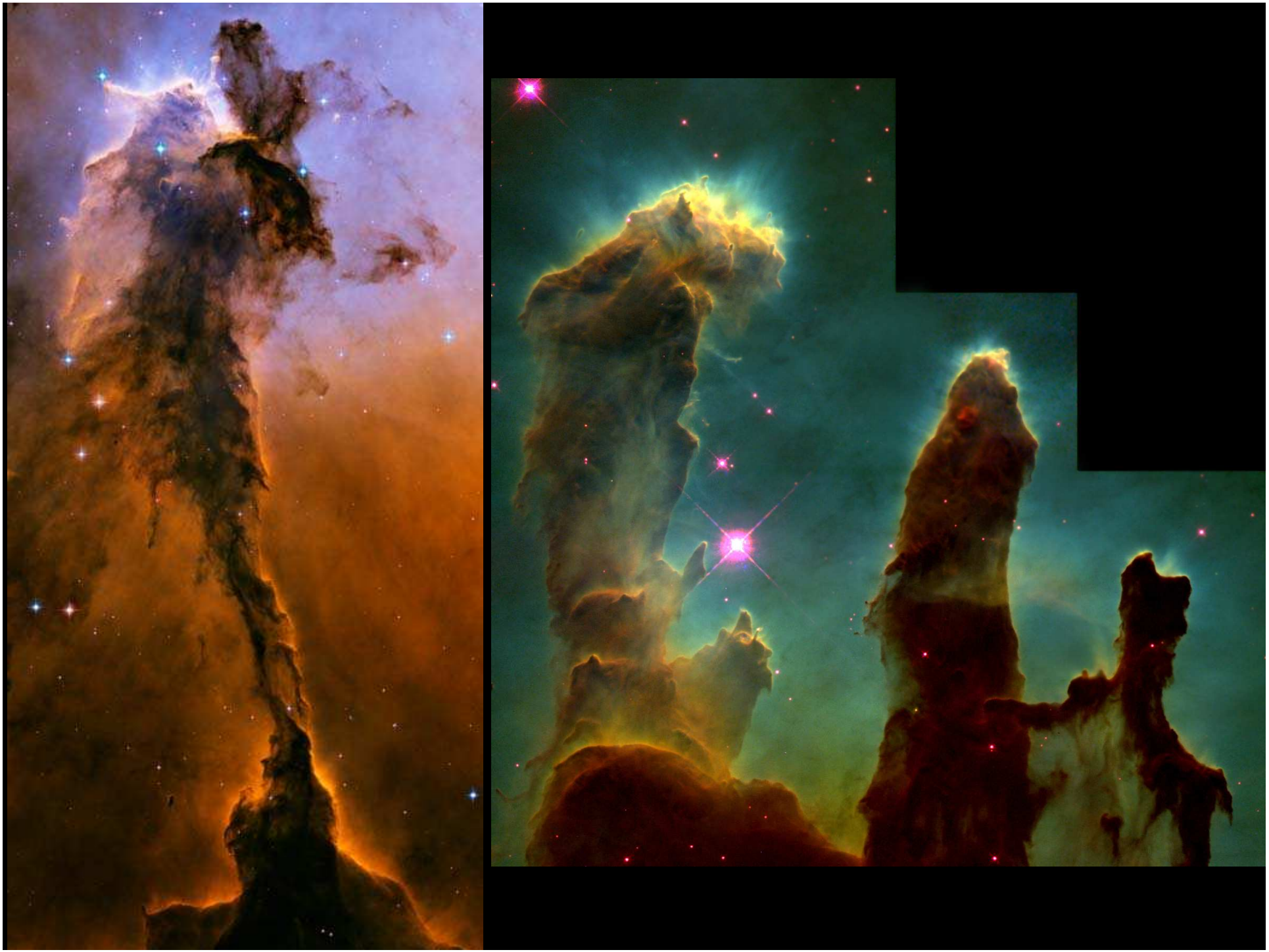


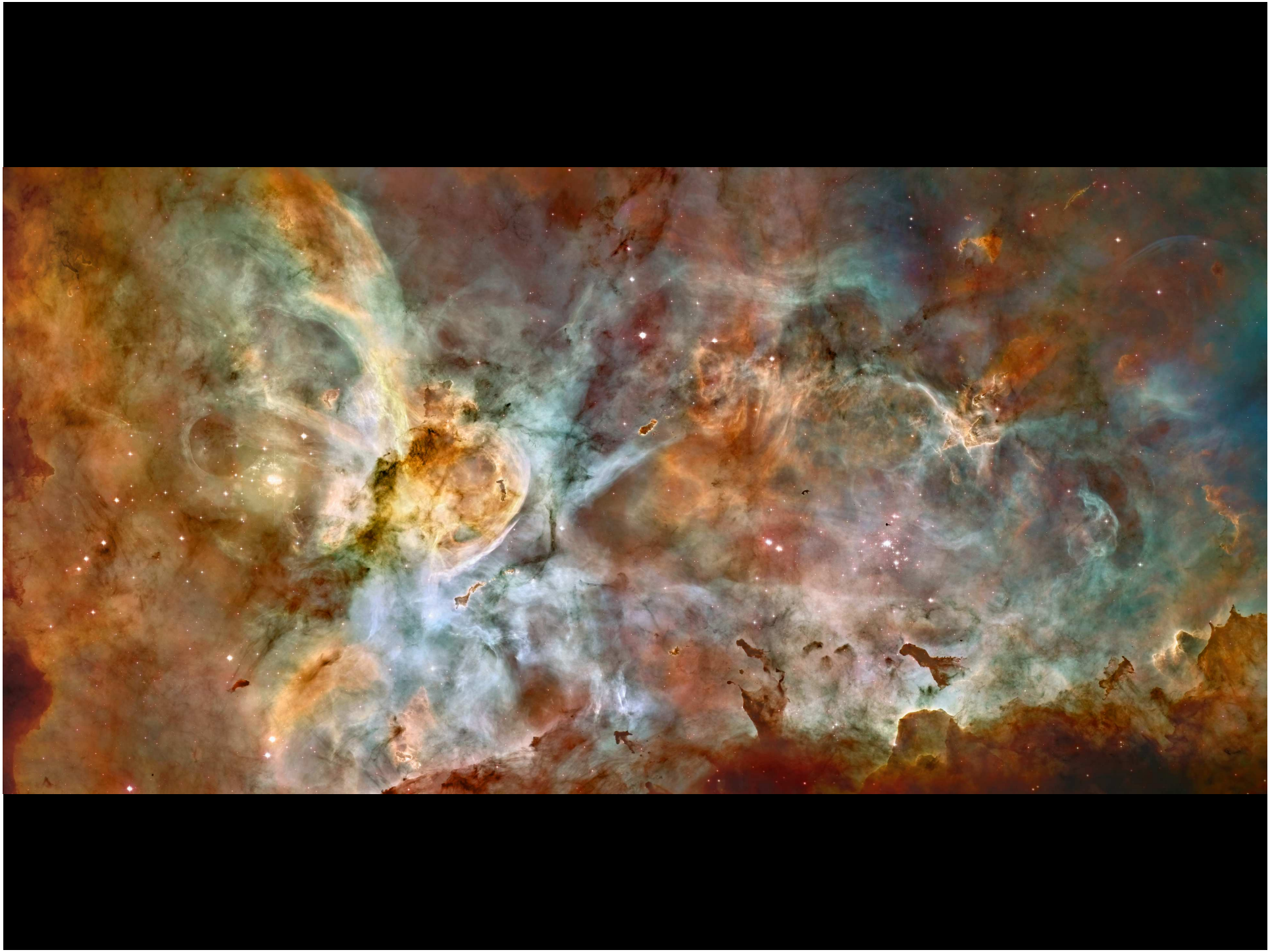




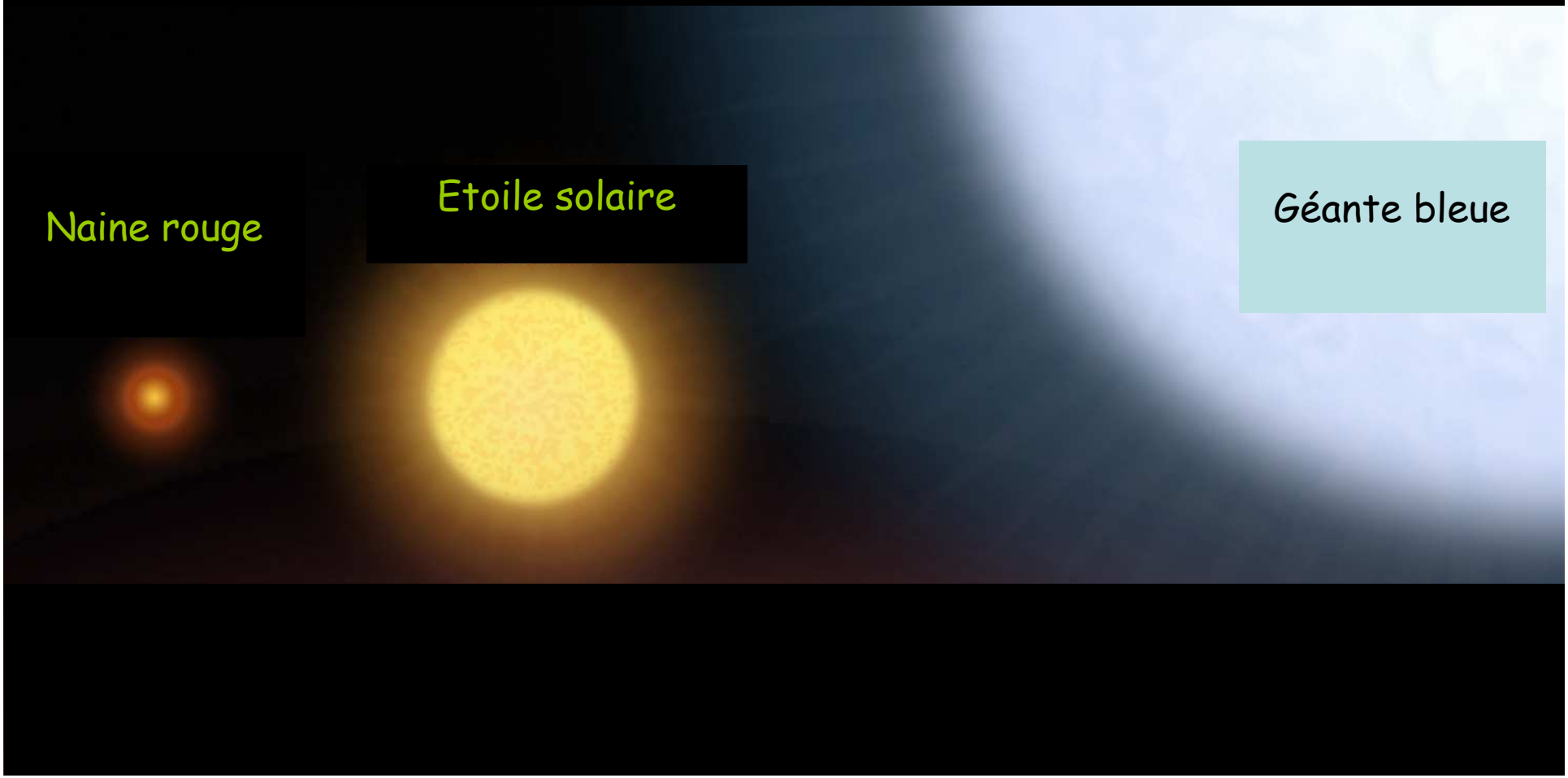


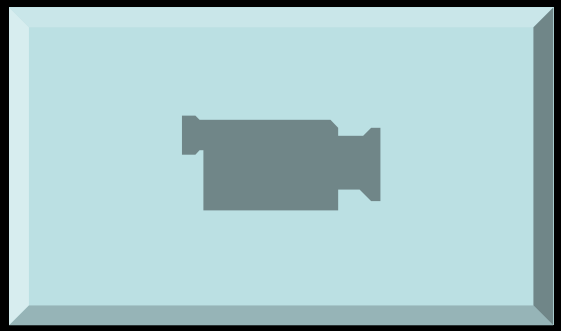






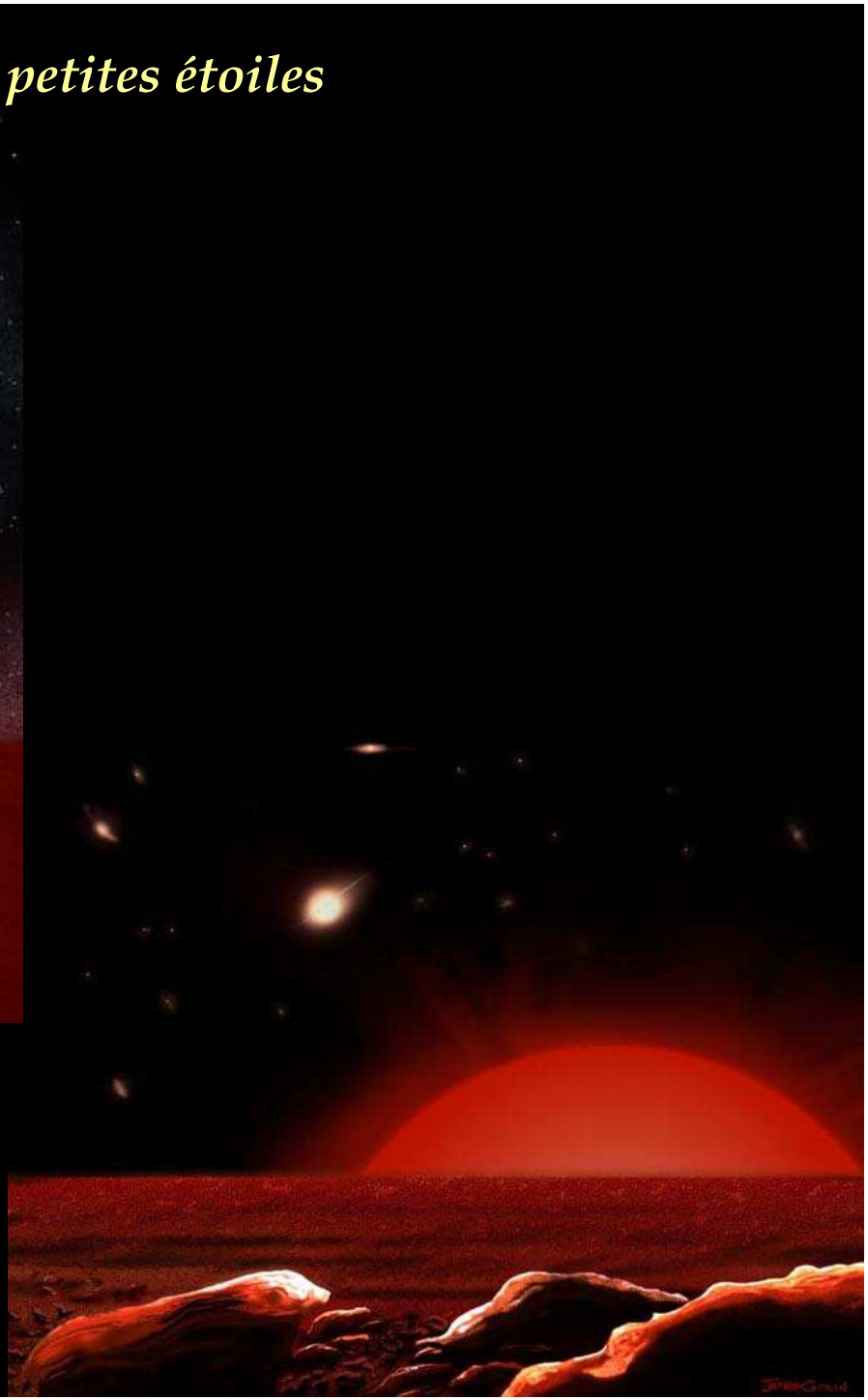
Des étoiles de toutes dimensions et de toutes les couleurs

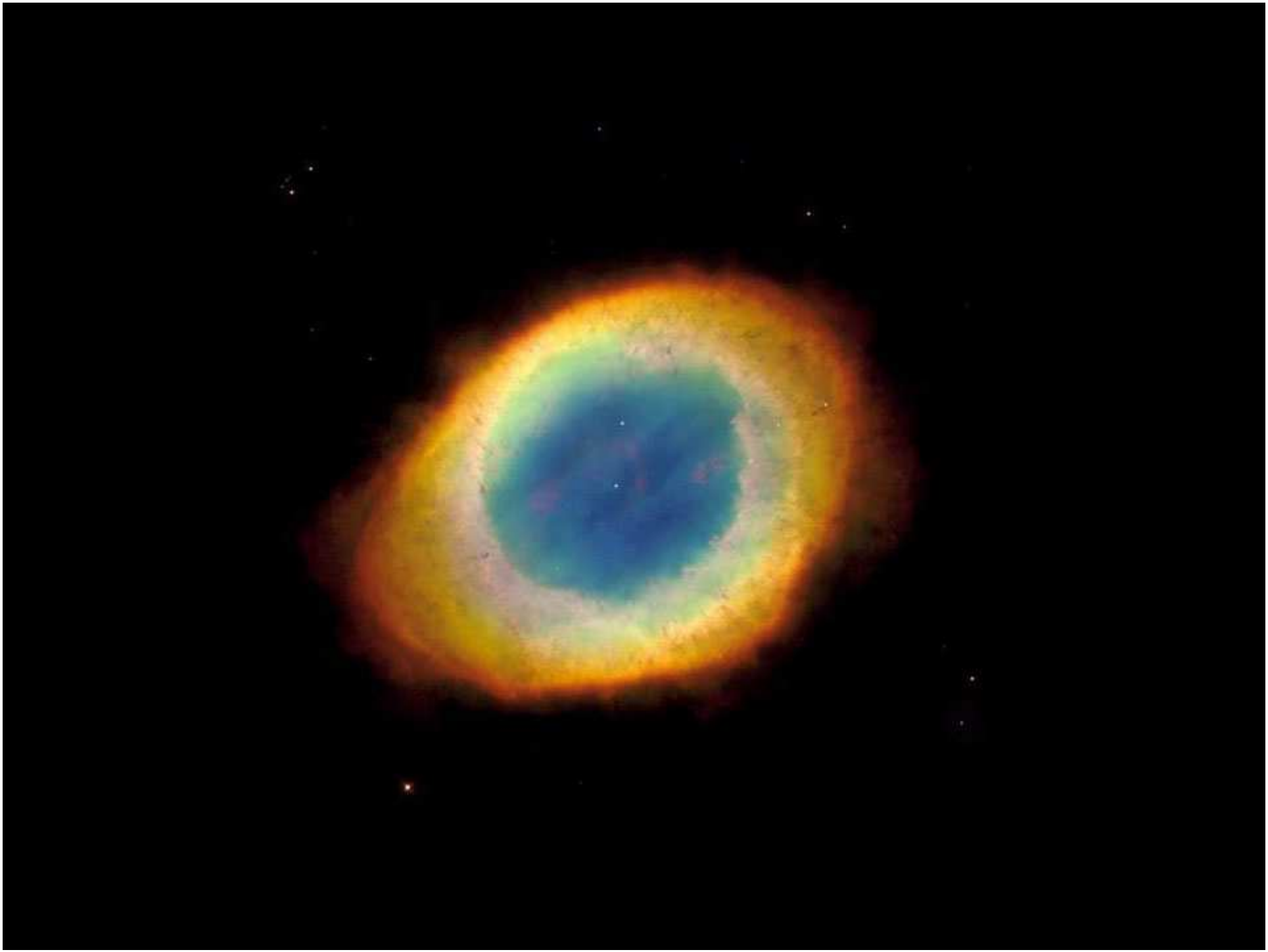


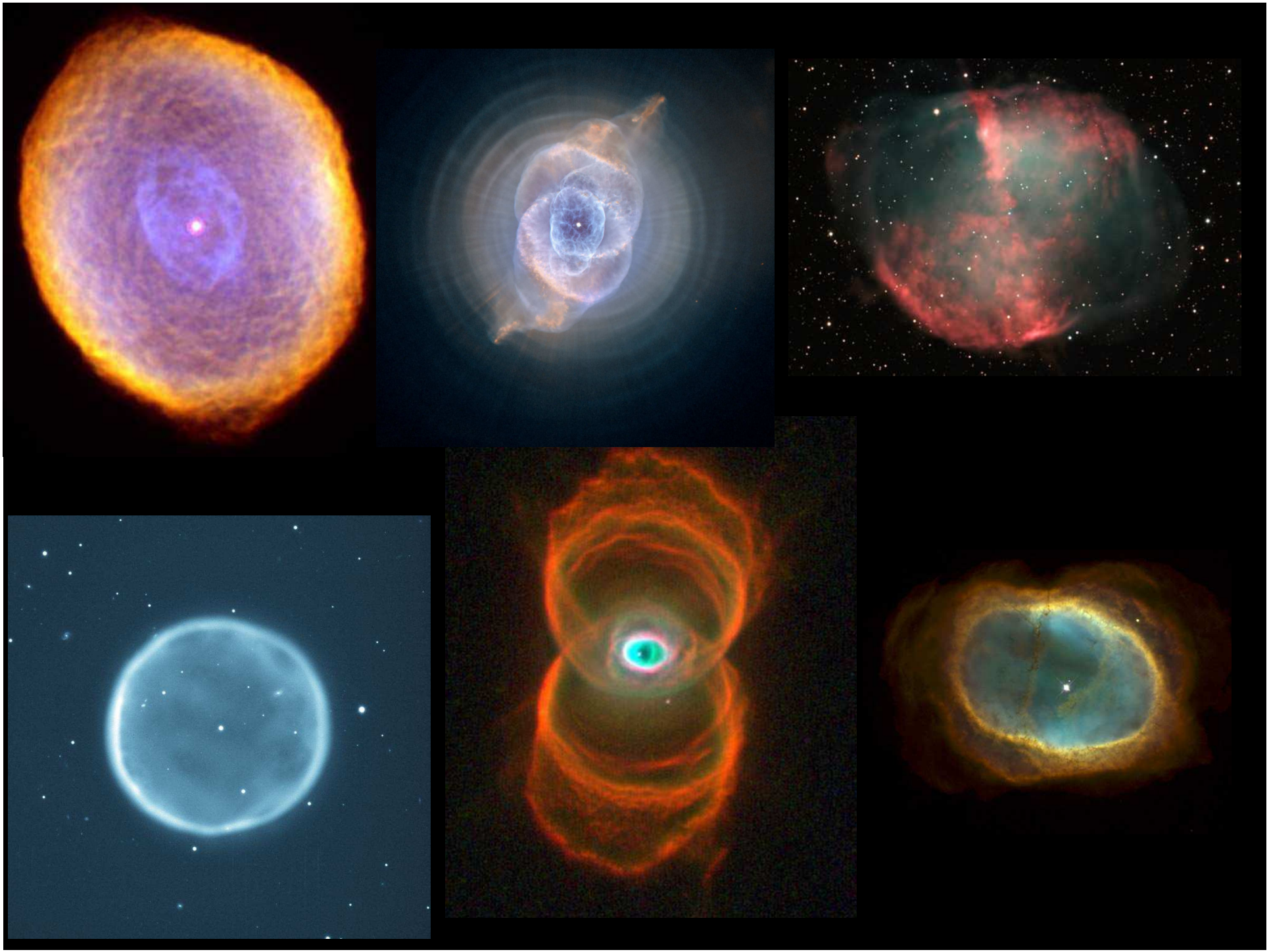


Rassemblements d'étoiles…

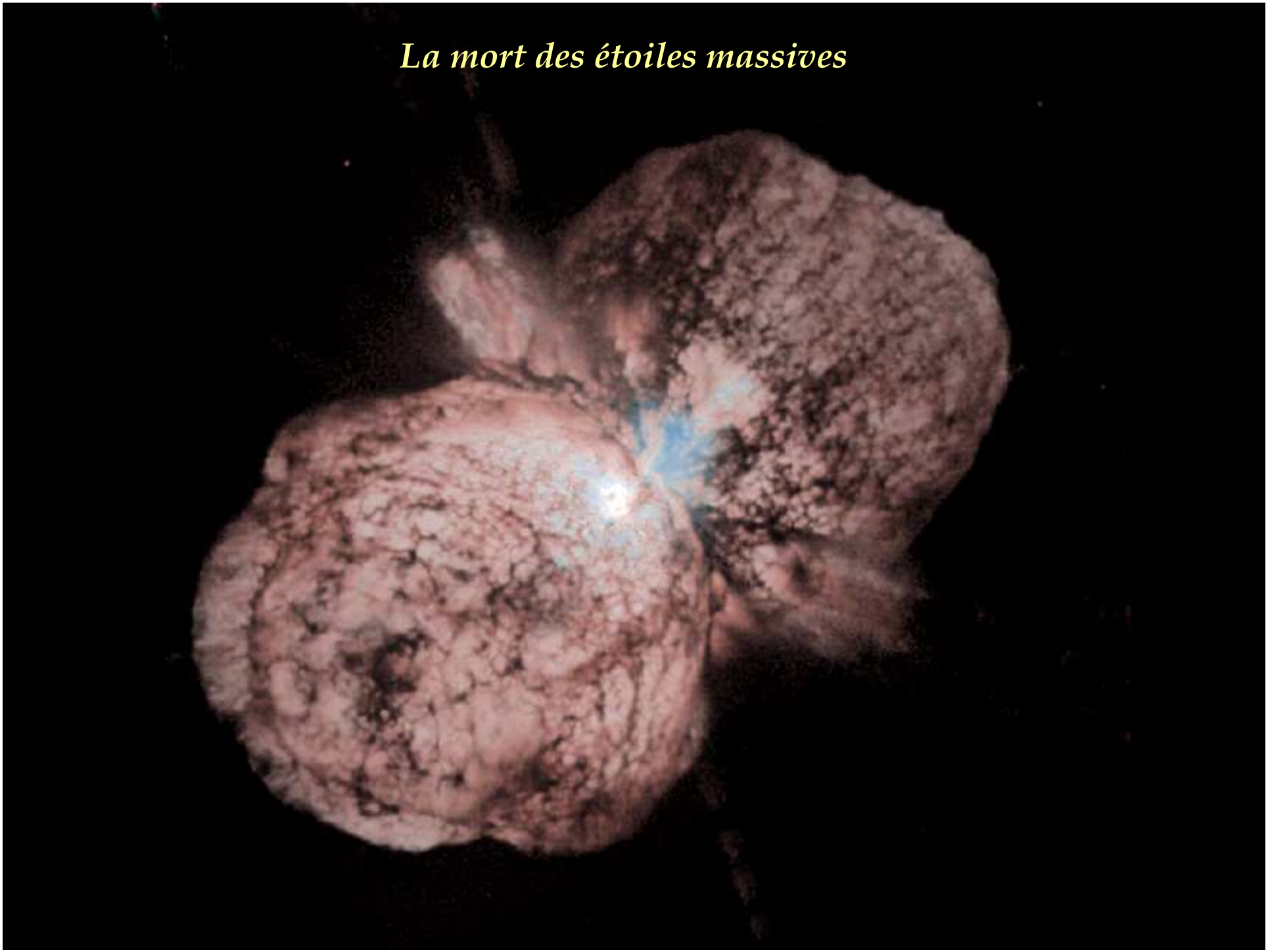
La mort des petites étoiles



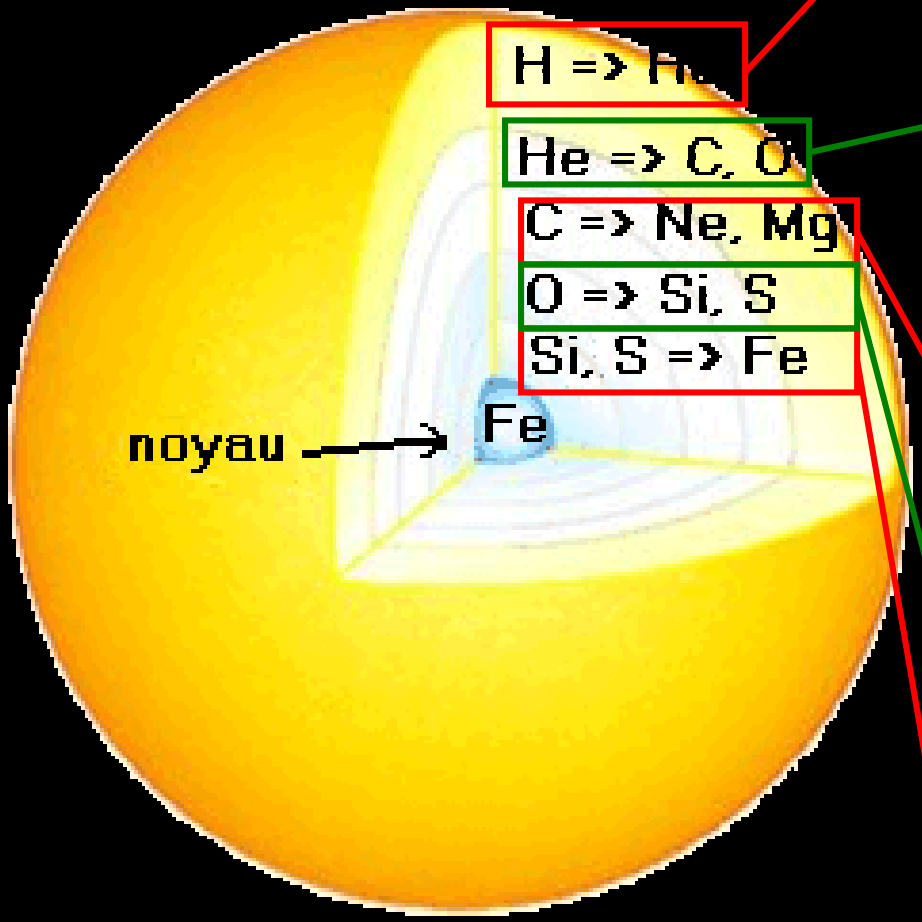




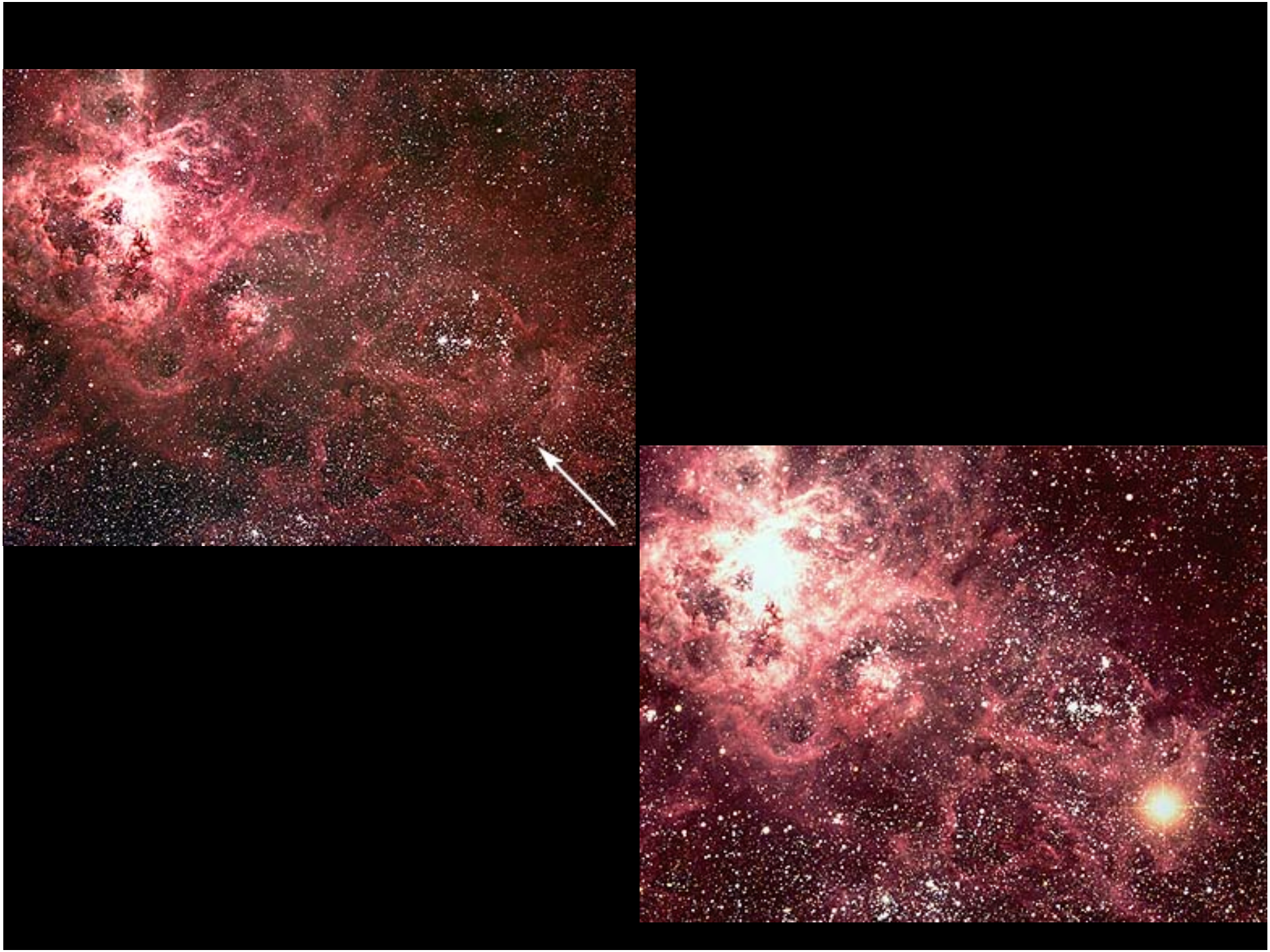
La mort des étoiles massives

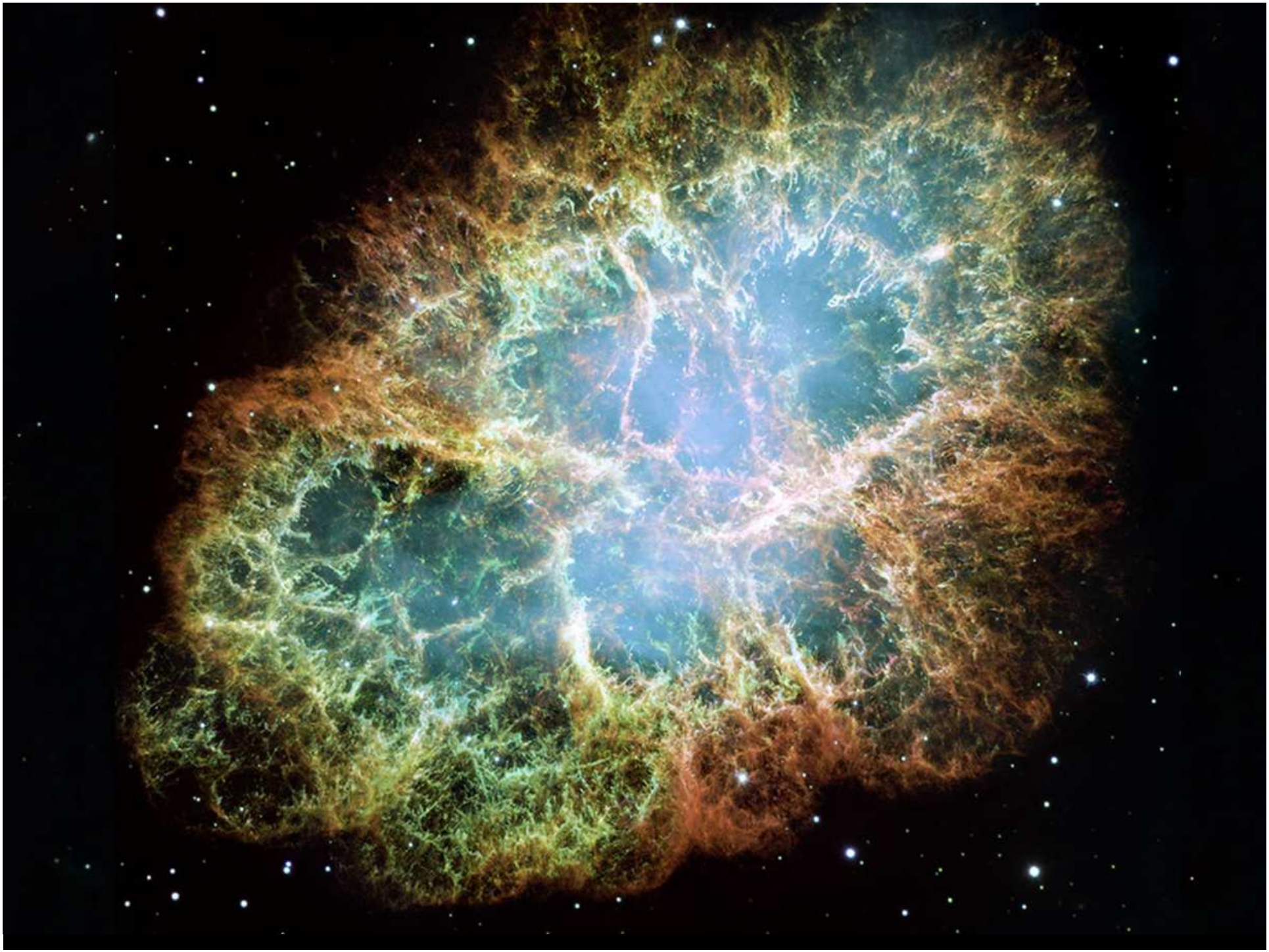


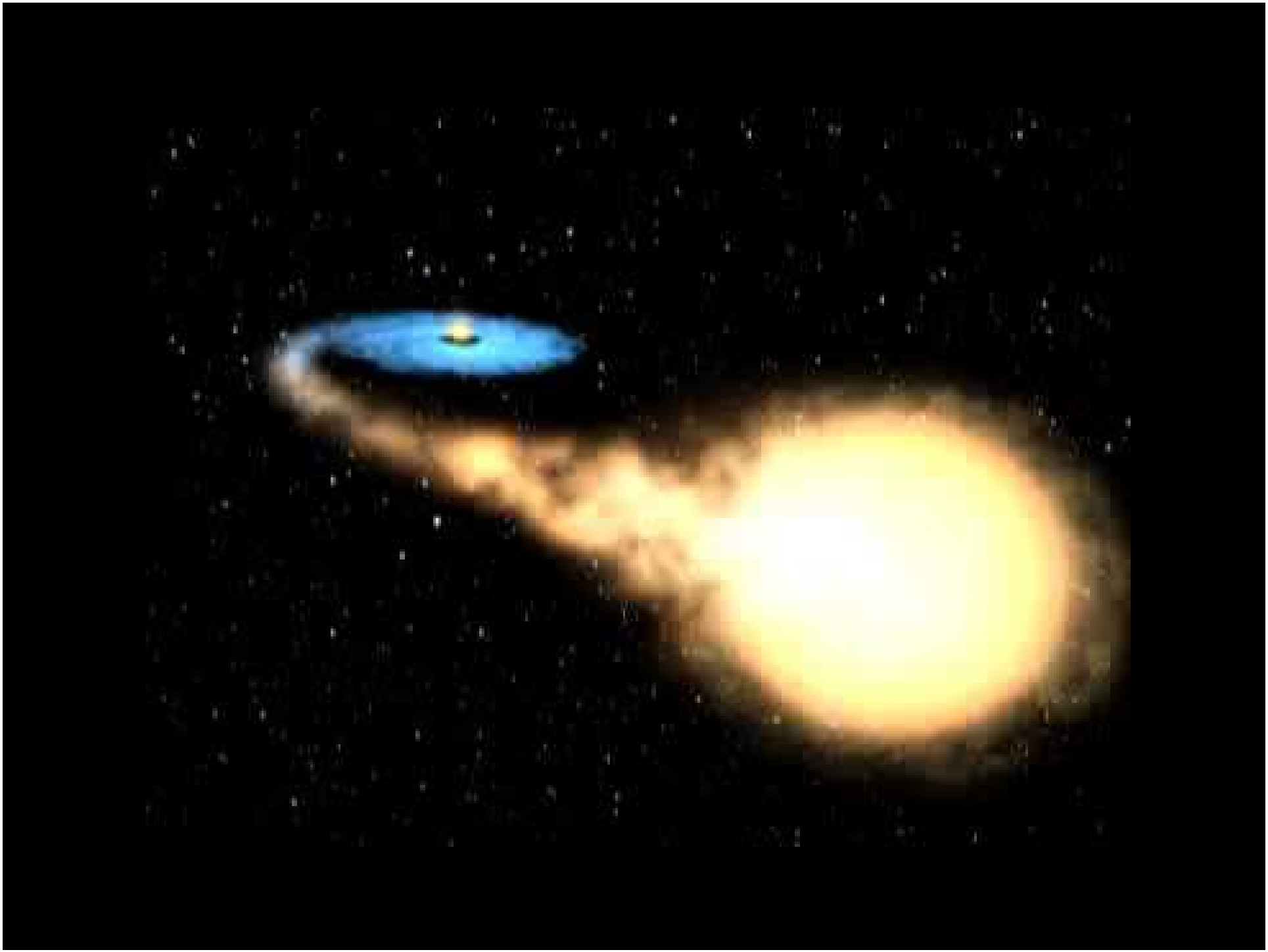
Étoile de 25 fois la masse du soleil

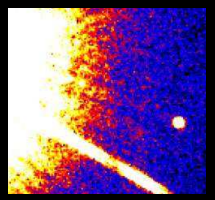


15 millions de degrés	7 millions d'années
100 millions de degrés	500.000 ans
500 millions de degrés	600 ans
2 milliards de degrés	6 mois
3 milliards de degrés	1 jour









Masse non suffisante pour fusionner son hydrogène

T ° = 1000°C

Durée de vie : plusieurs dizaines de milliards d'années

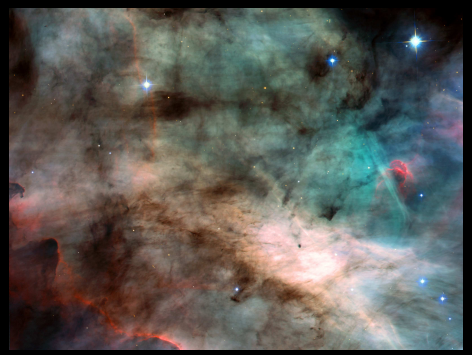
Fin de vie :

inconnue, probablement naine noire

Naine brune

M<0.08 M_s

Nébuleuses



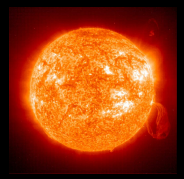
Naine rouge

M : > 0.08 à < 0.7 M_s

T ° = 3000°C

Durée de vie : plusieurs dizaines de milliards d'années

Fin de vie : naine blanche, puis naine noire



Etoile de type solaire

M : > 0.7 à 5 M_s

T ° = environ 6000 °C

Durée de vie : jusqu'à 20 milliards d'années

Fin de vie :

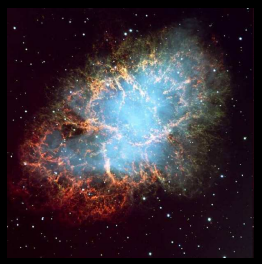
Géante rouge, nébuleuse planétaire, naine blanche et enfin naine noire

M : > 5 à 100 ? M_s

T ° = 30000 °C

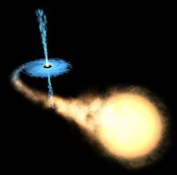
Durée de vie : Quelques millions à quelques dizaines de millions d'années

Géantes bleues



Fin de vie :

Peut passer par le stade de supergéantes rouges, puis supernova



Puis pulsar ou trou noir