



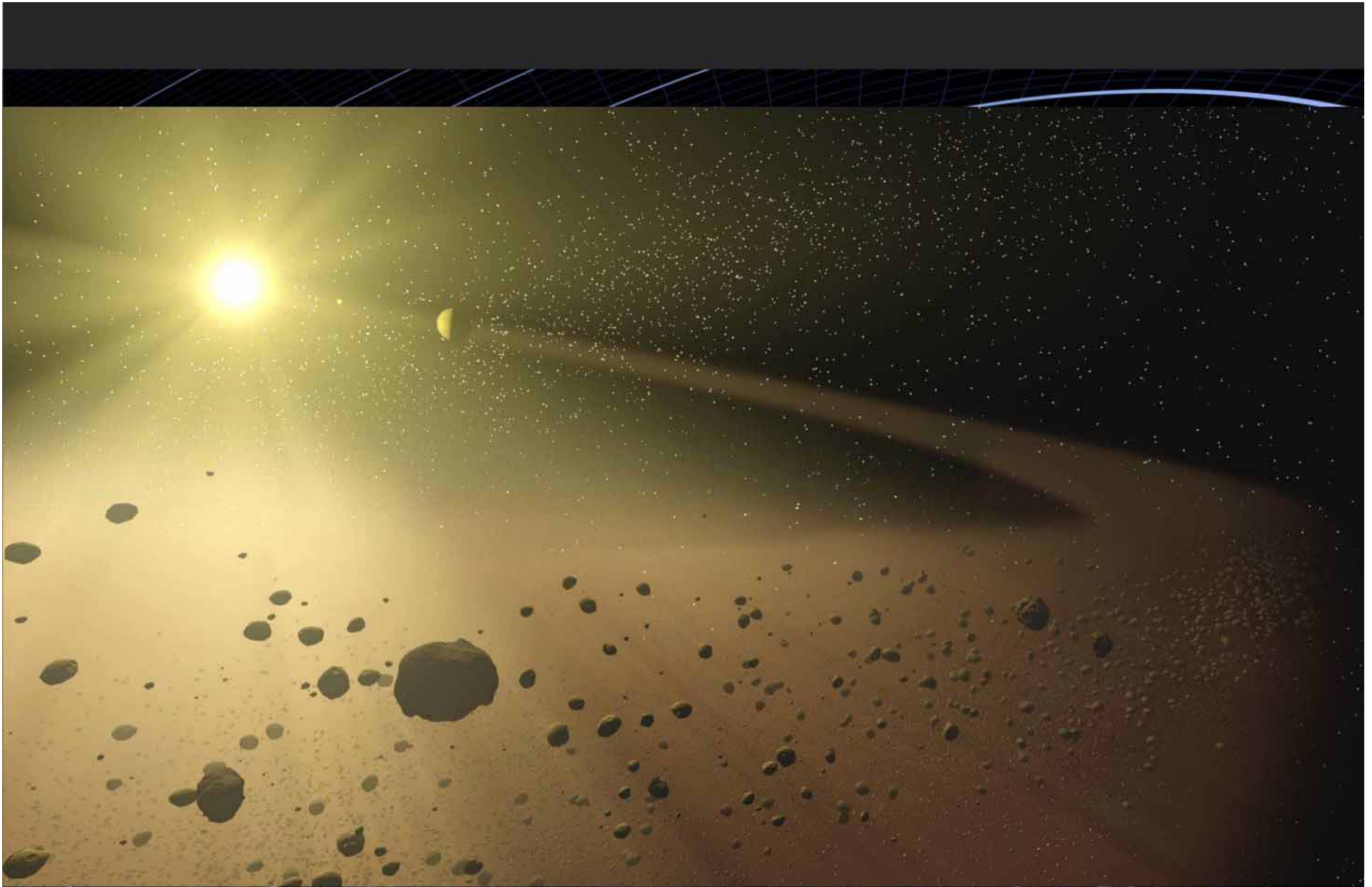
Foto: Rogelio Bernal Andreo

Cielo PROFUNDO MÁS ALLÁ DEL SISTEMA SOLAR

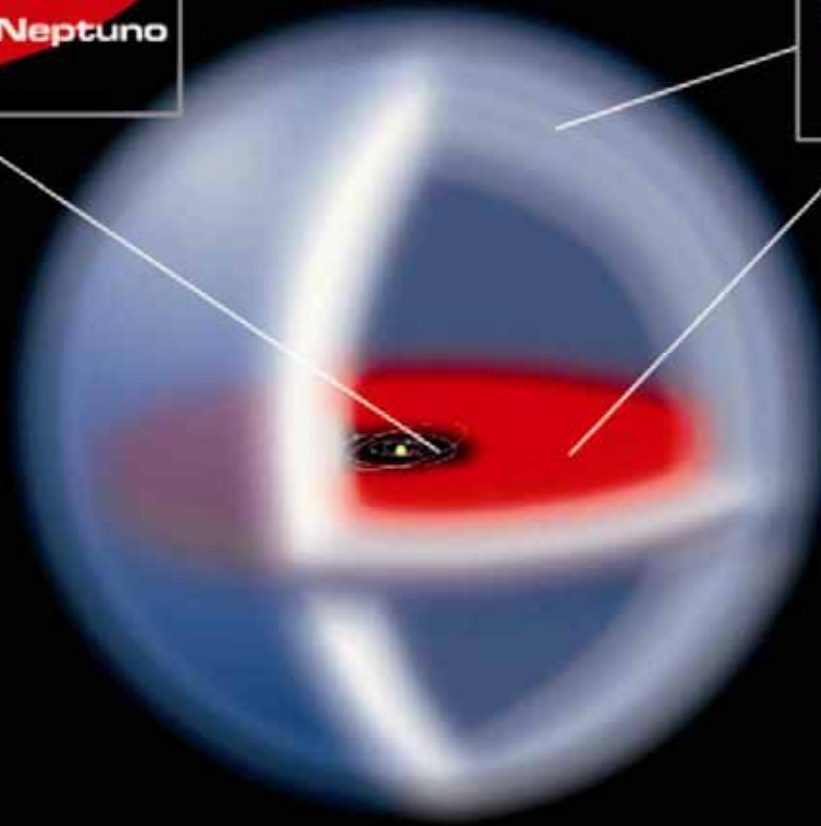
Curso de astronomía básica - Sevilla 18 febrero 2012





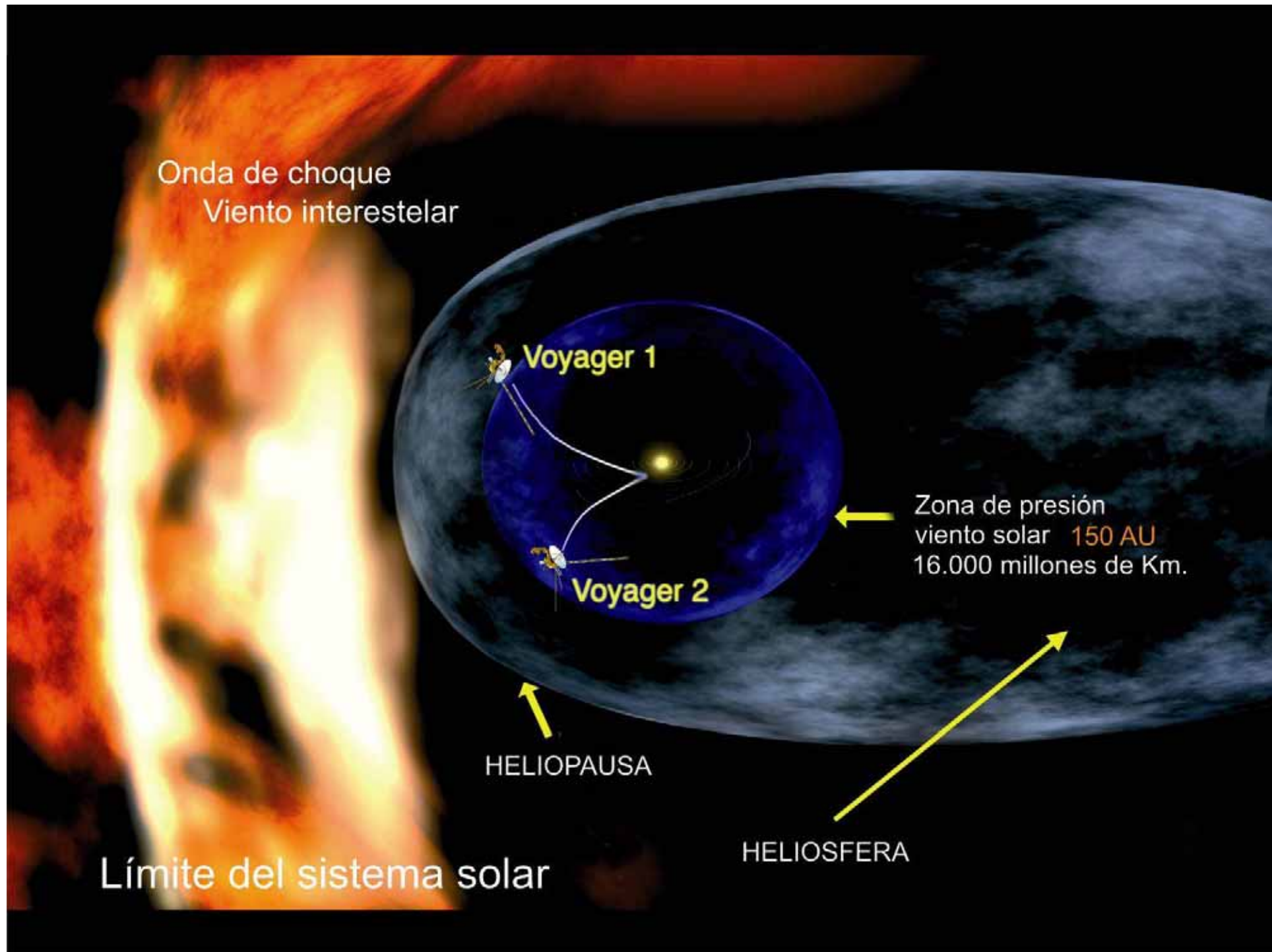


Cinturón de Kuiper



50 000 – 100 000 AU

Cinturón de Kuiper y nube de Oort



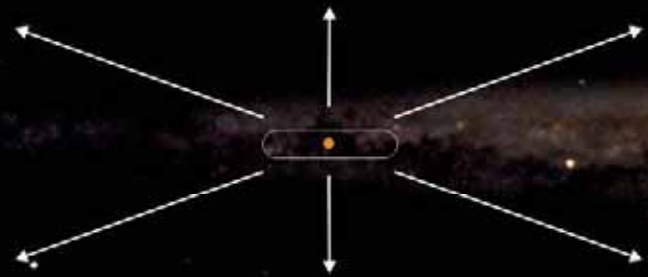


Galaxias

Polvareda de SOLES



Galaxia Situación del Sol



Galaxia Engaño visual

Absorción de la luz por las nubes de polvo



Vía Láctea



Macroestructura

un salto al

V

A

C

I

O

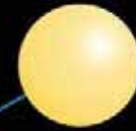
4,22 años luz

45 billones de km.

45|000000|000000

billón

millón

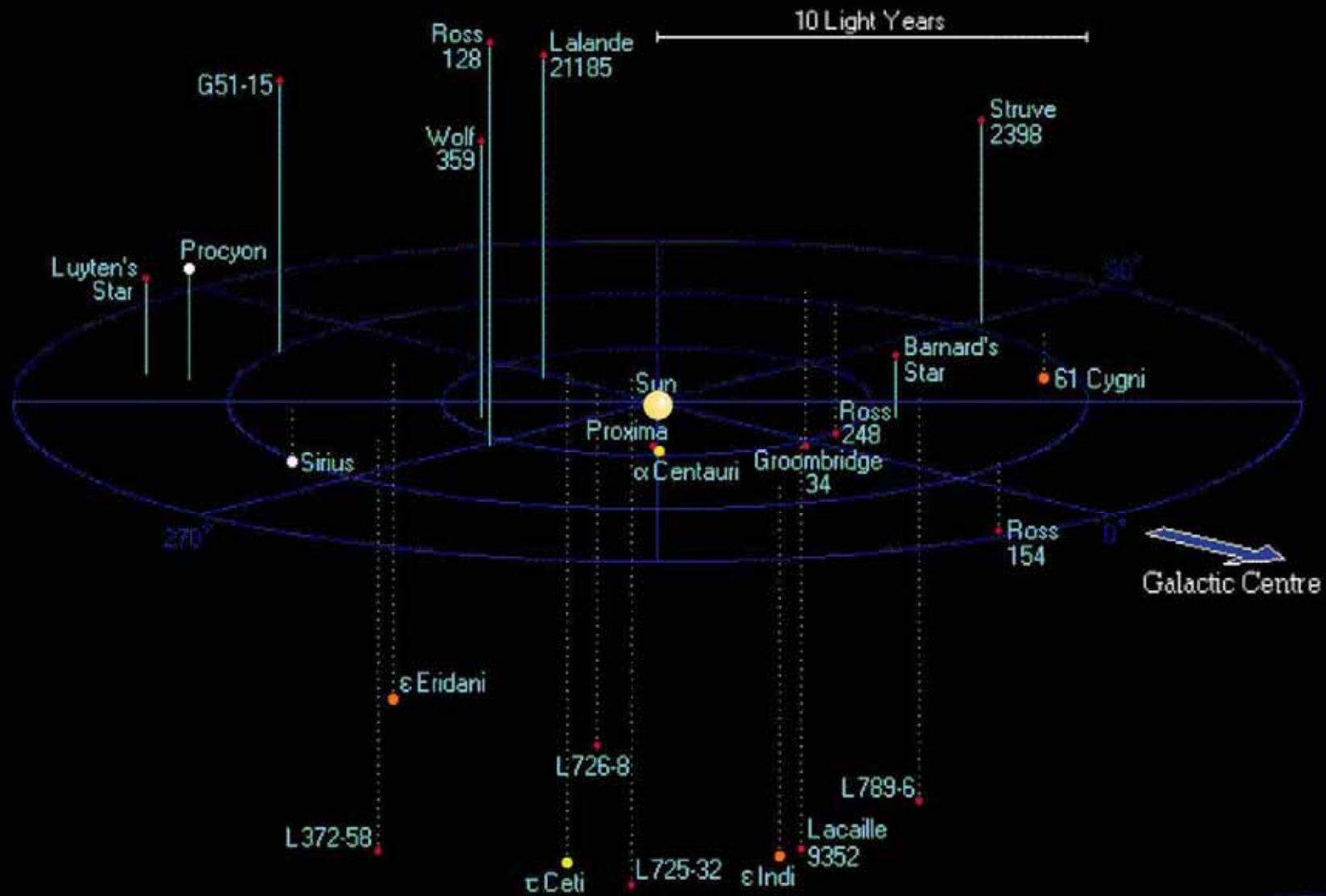


Próxima centauri

Sol

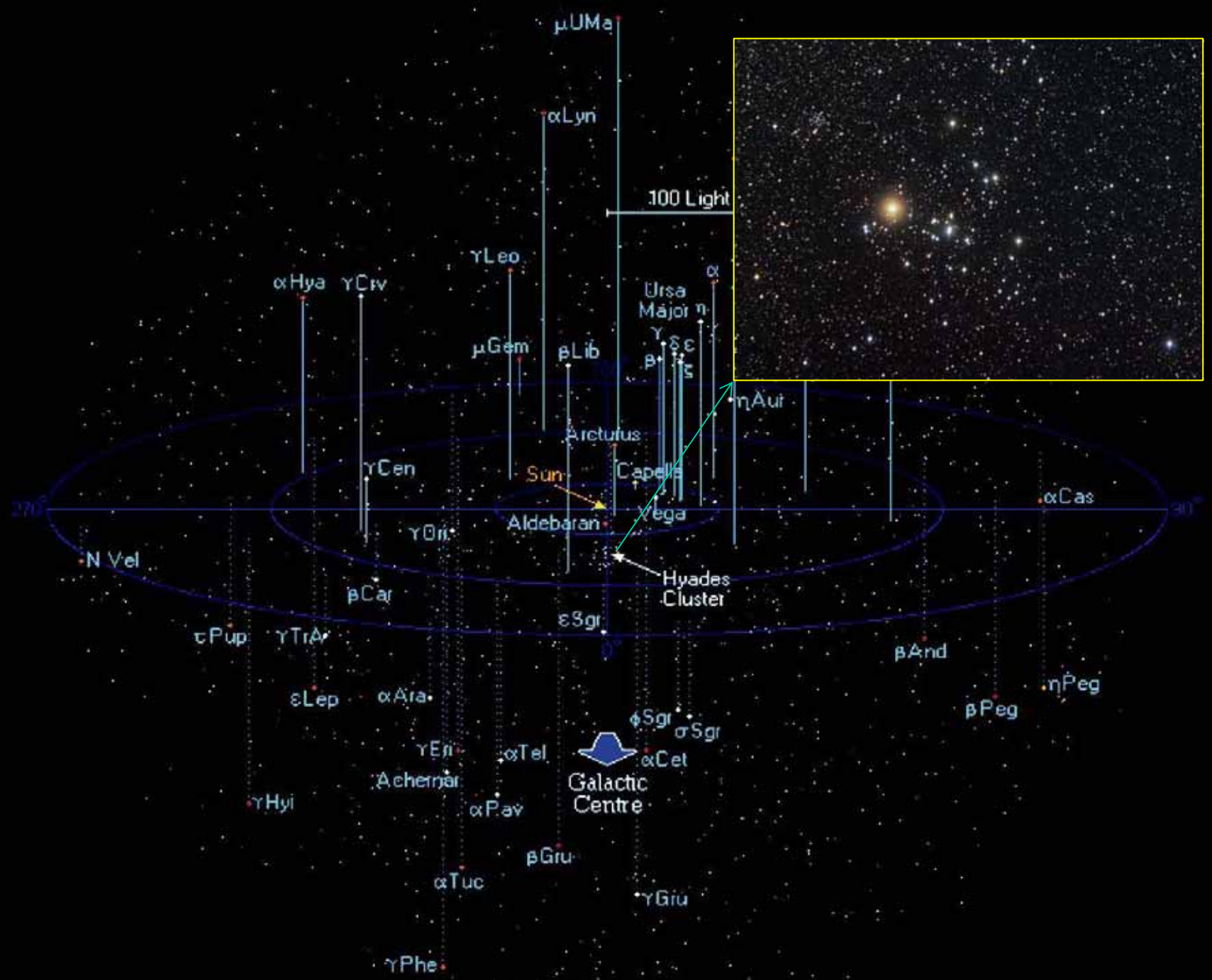


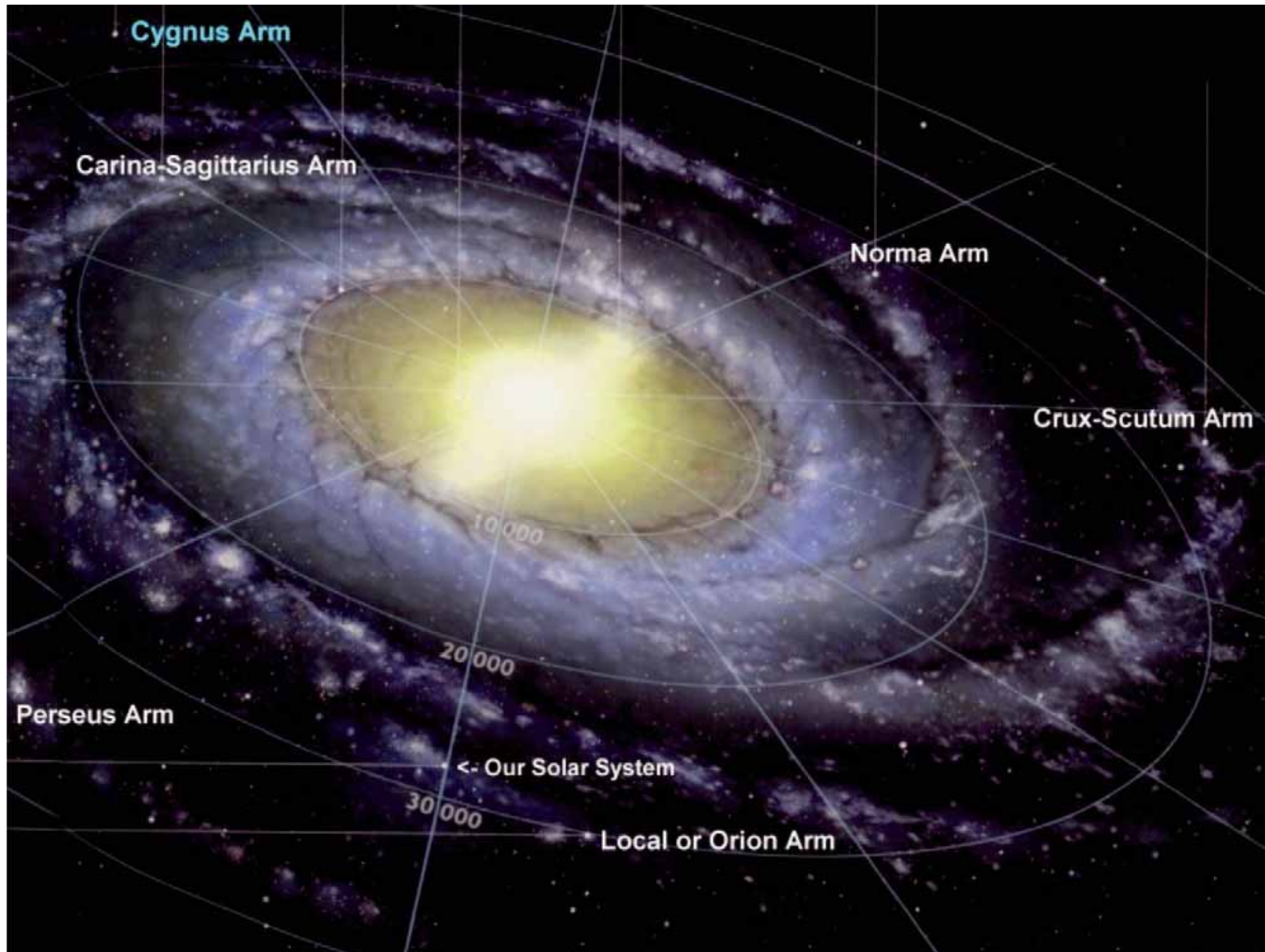
La estrella más próxima

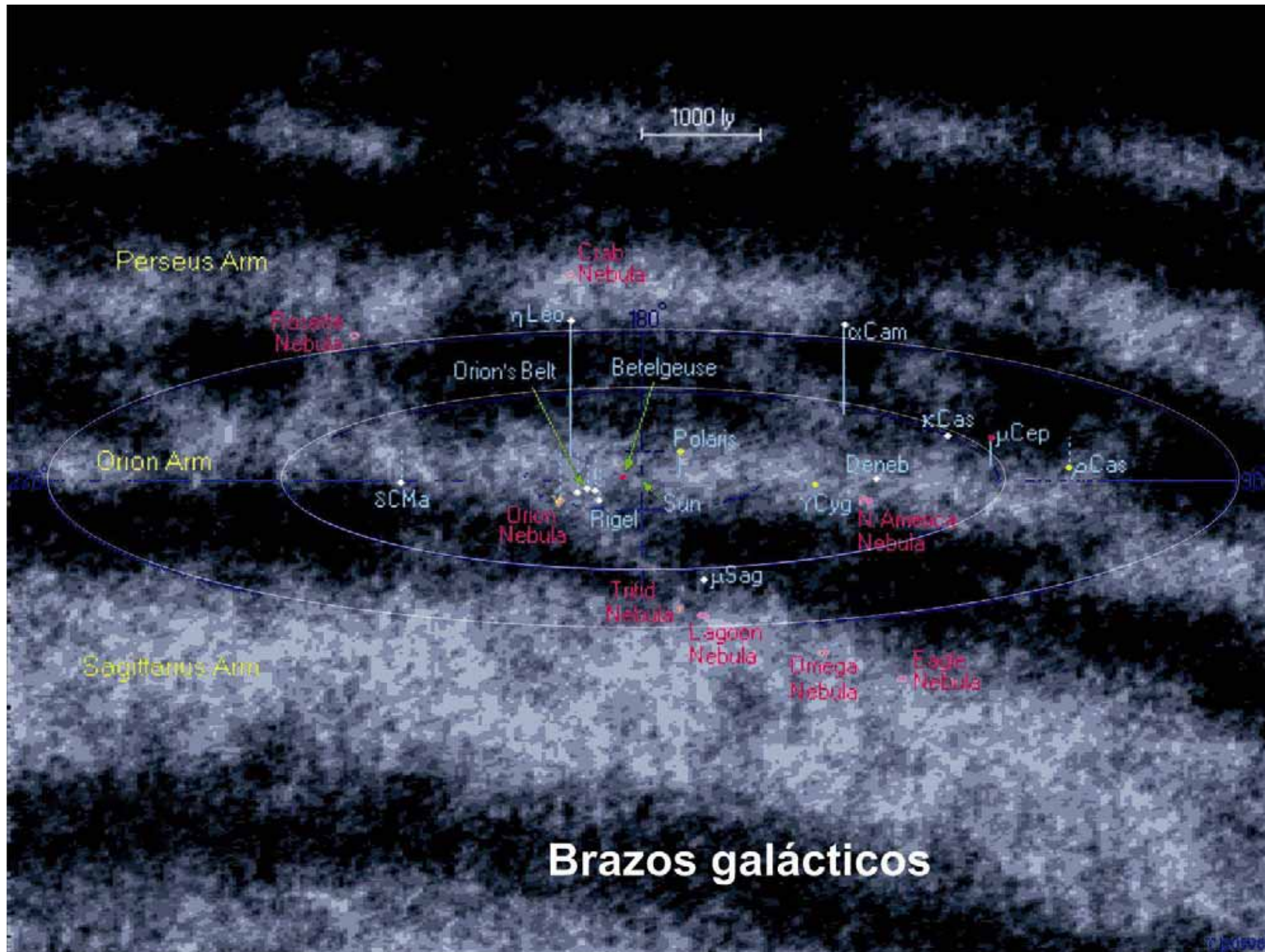


Nuestras vecinas

c poselli





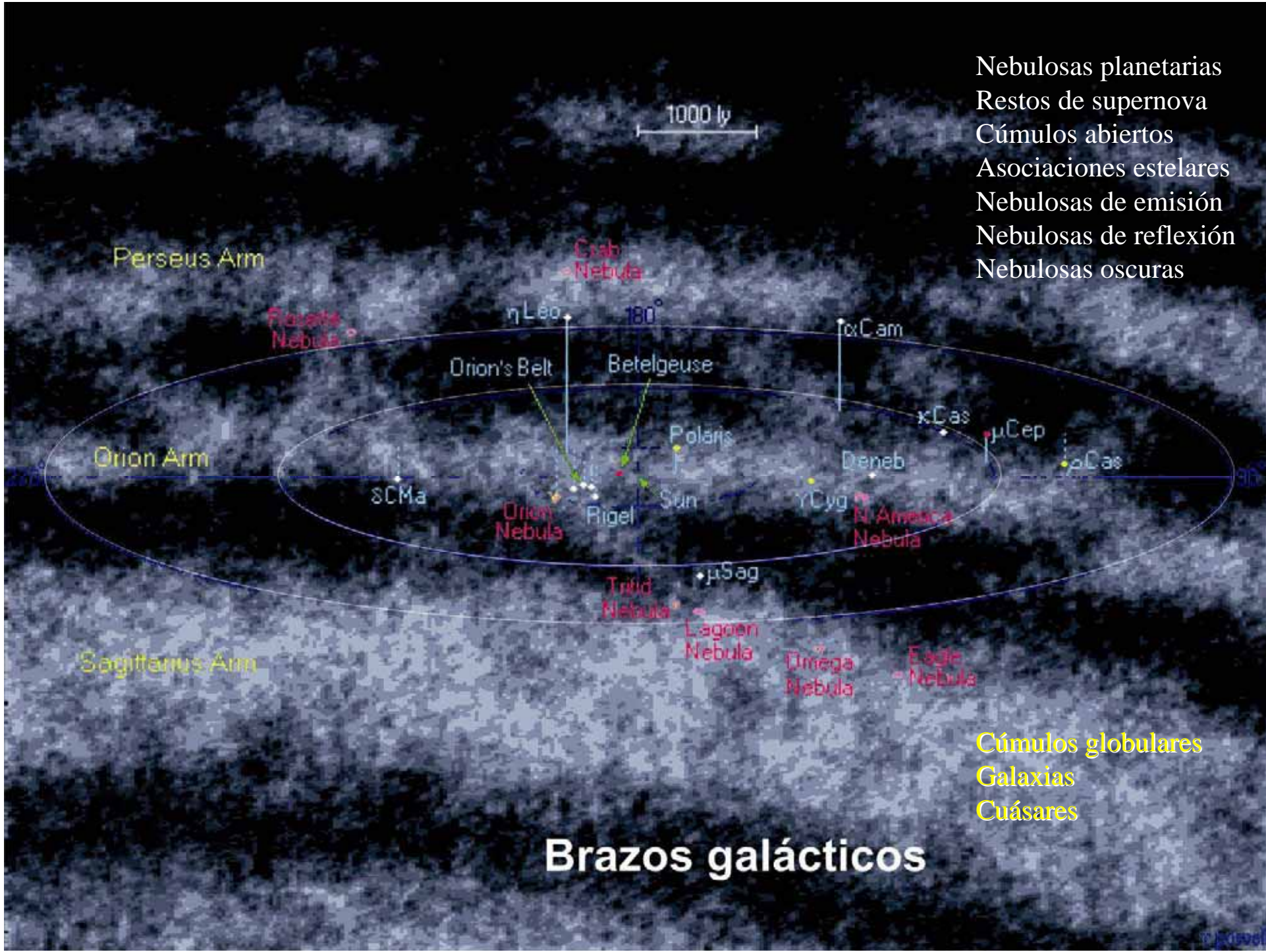


Brazos galácticos

- Nebulosas planetarias
- Restos de supernova
- Cúmulos abiertos
- Asociaciones estelares
- Nebulosas de emisión
- Nebulosas de reflexión
- Nebulosas oscuras

- Cúmulos globulares
- Galaxias
- Cuásares

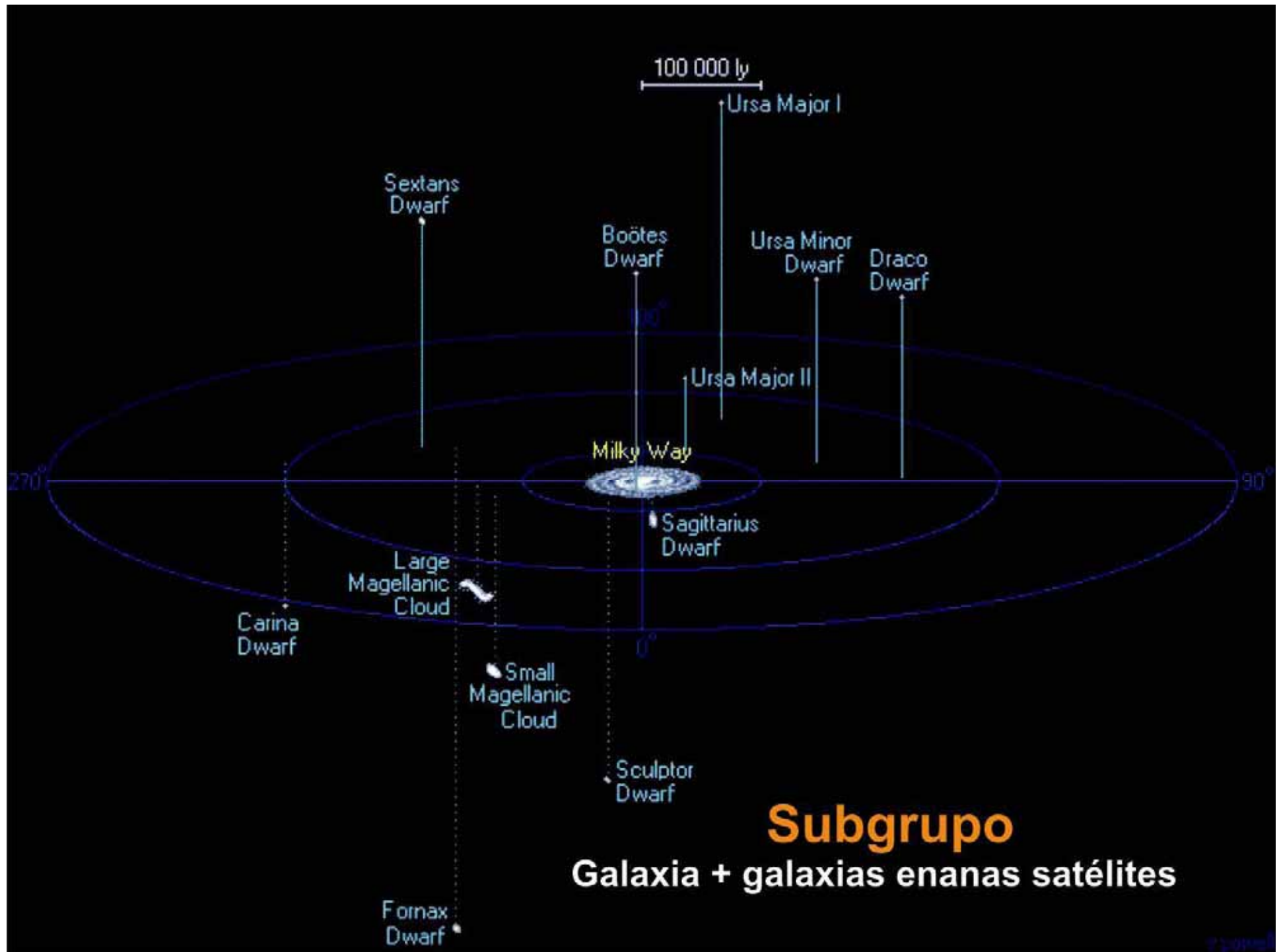
Brazos galácticos



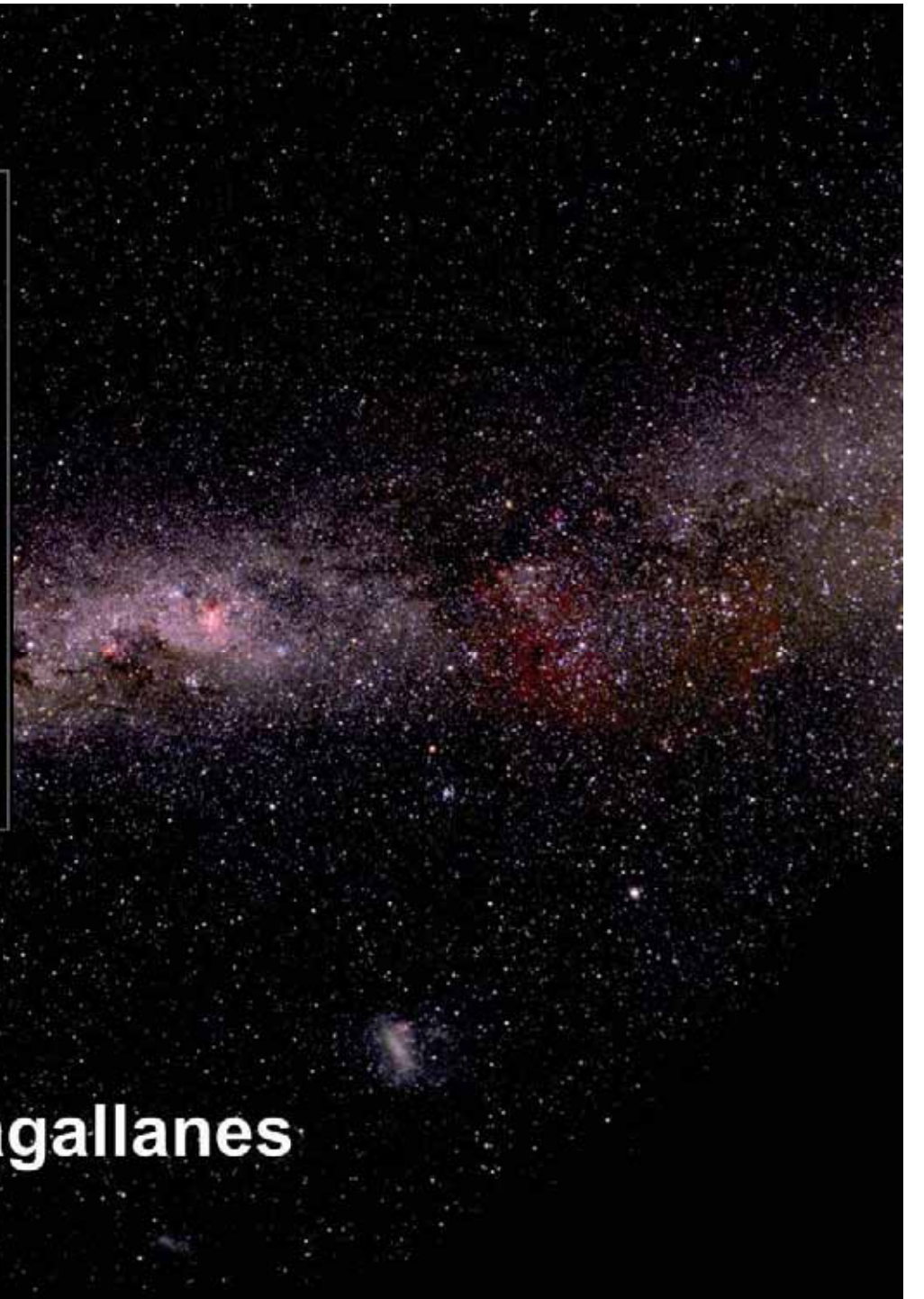
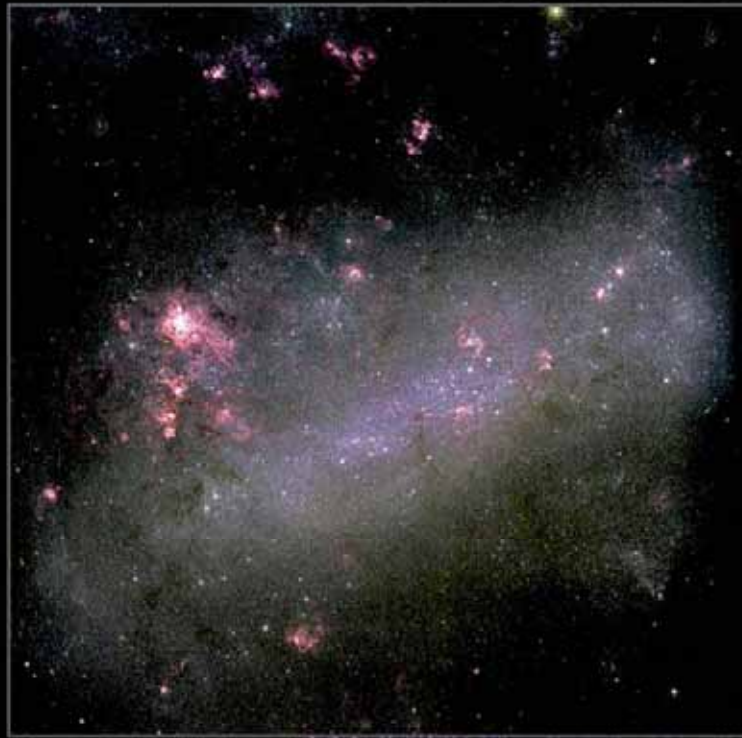


Galaxia

Cúmulos globulares

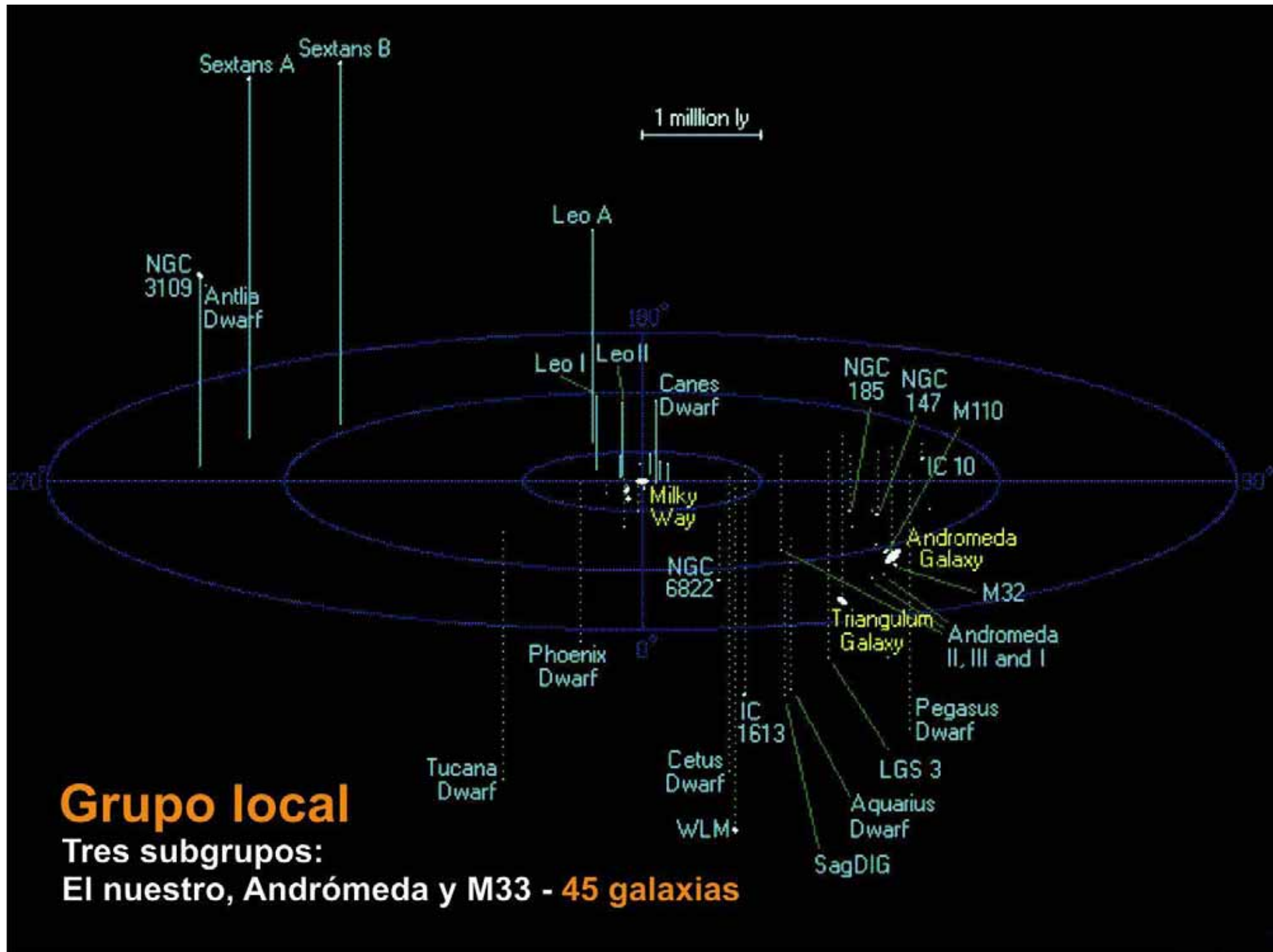


Subgrupo
Galaxia + galaxias enanas satélites



Galaxias satélites

Nube de Magallanes



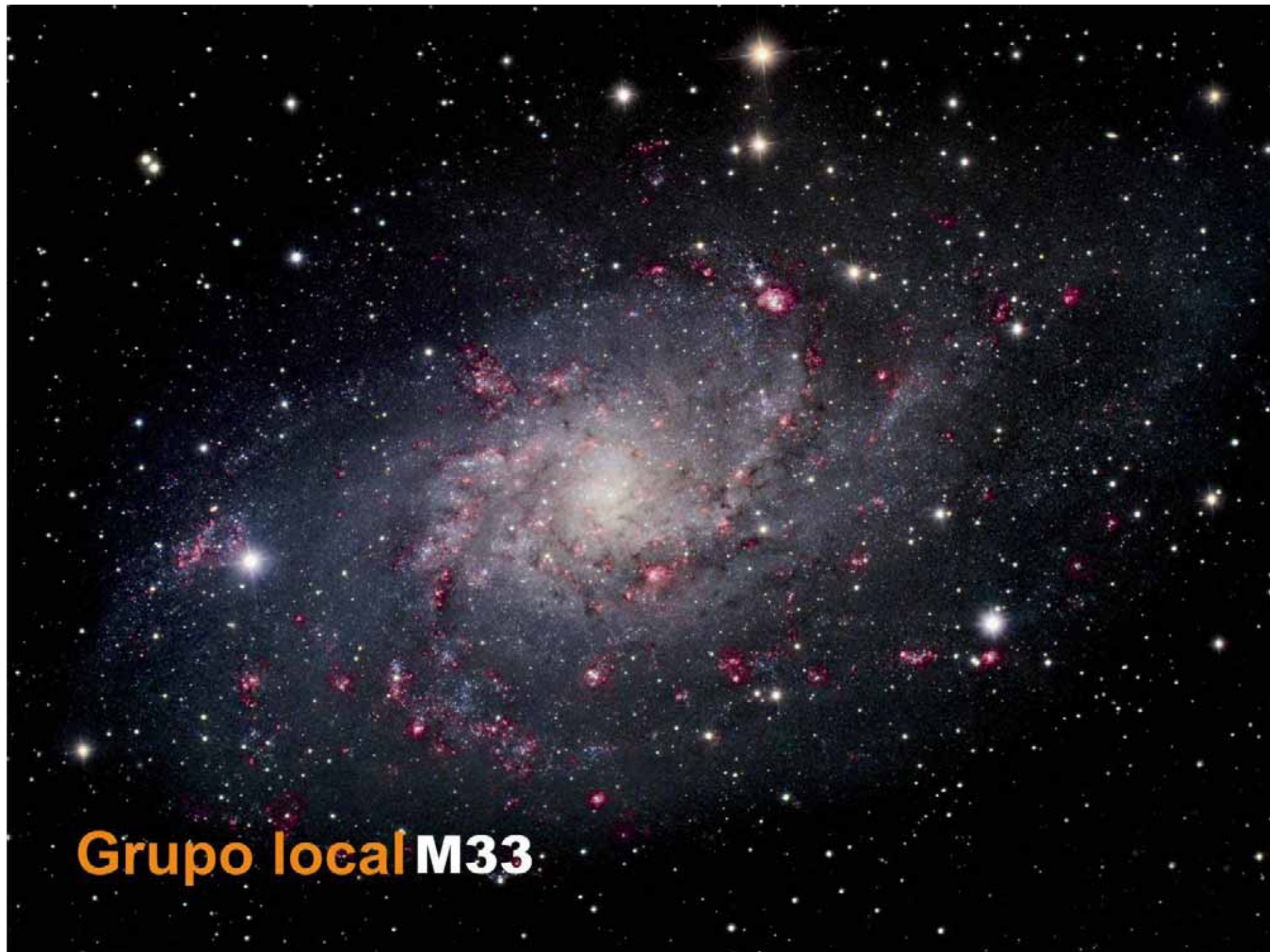
Grupo local

Tres subgrupos:

El nuestro, Andr6meda y M33 - 45 galaxias



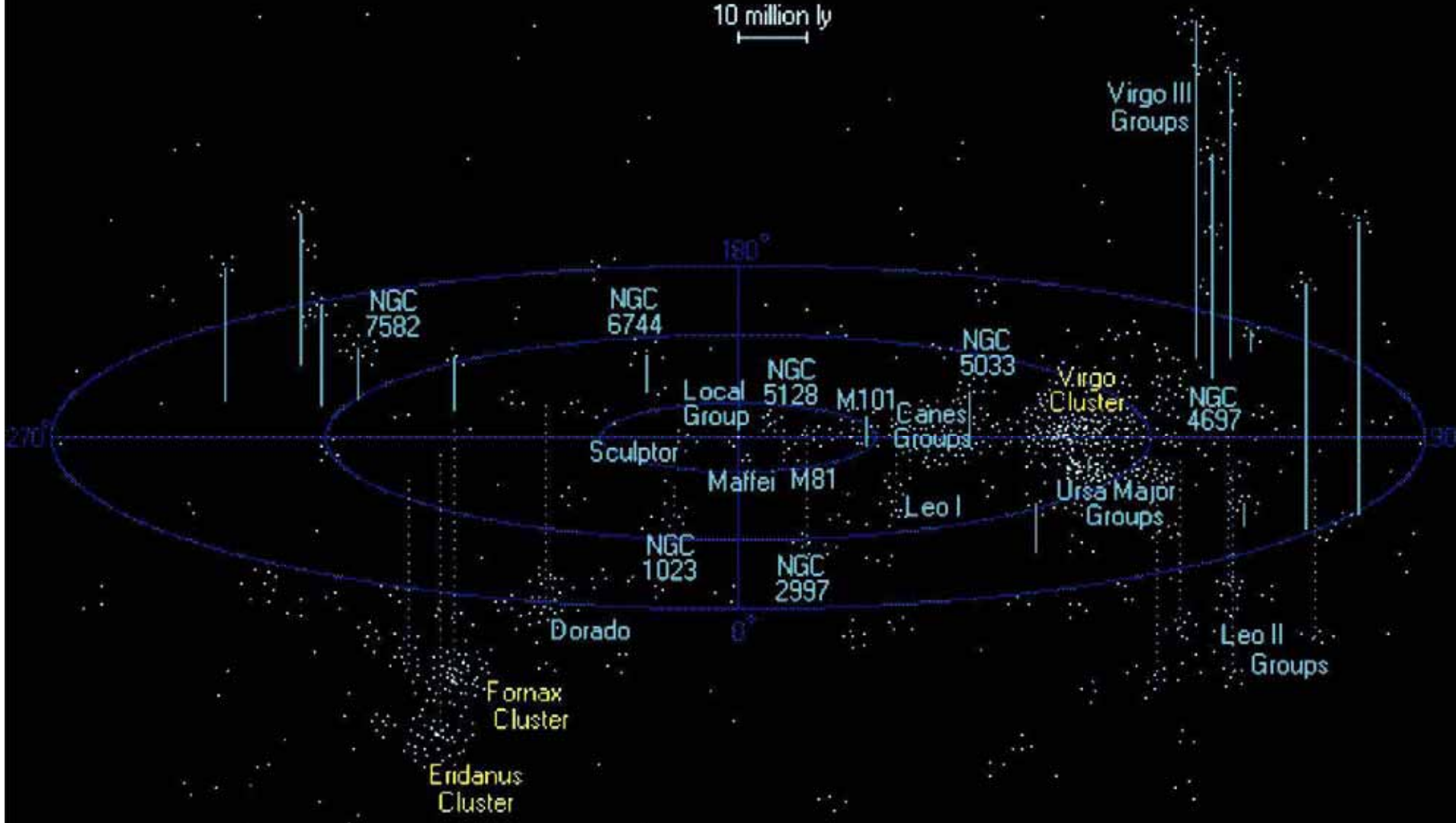
Grupo local M31 Andr6meda



Grupo local M33

200 millones años luz

10 million ly



Cúmulos galácticos



Cúmulo de Virgo

400 millones años luz

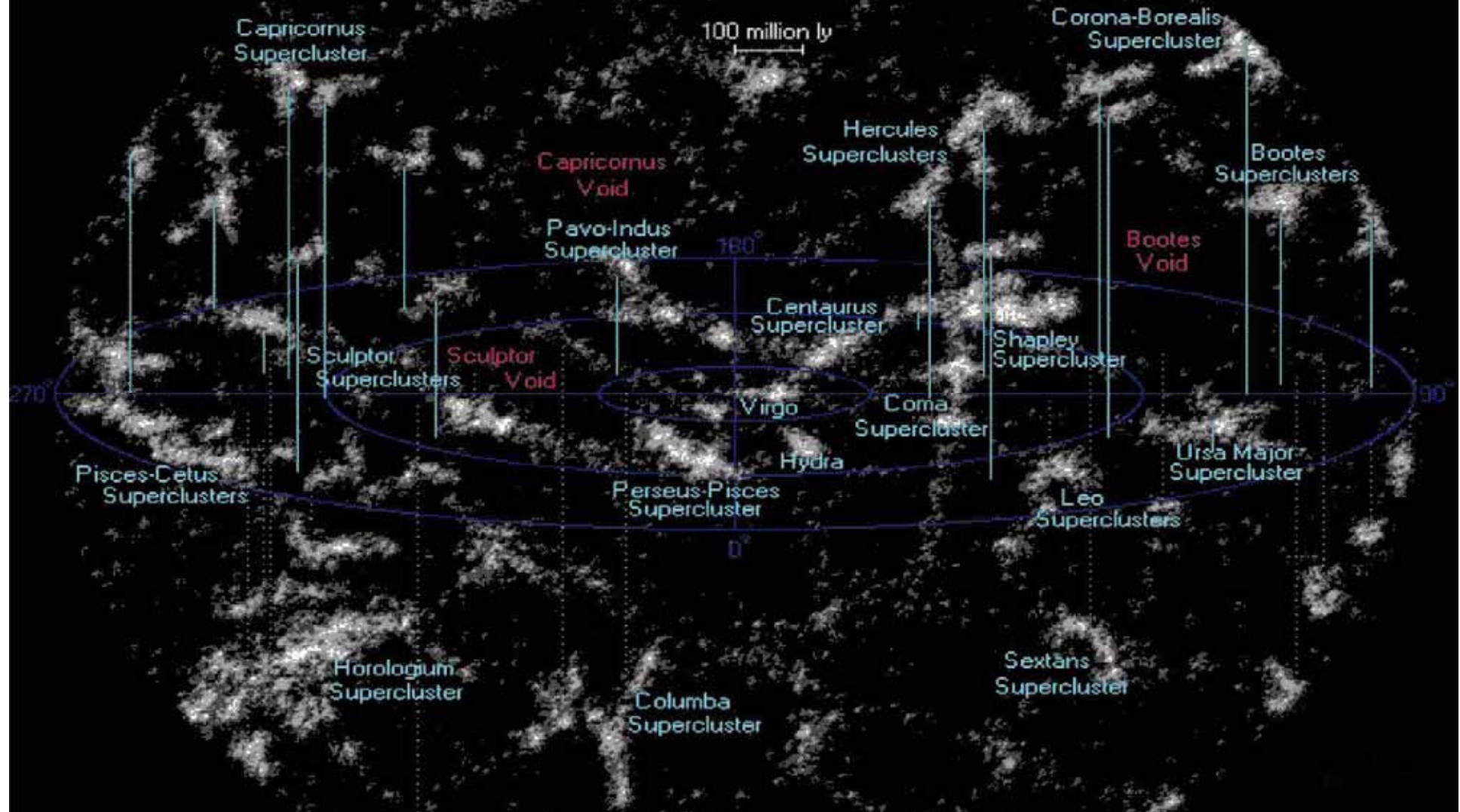
100 million ly



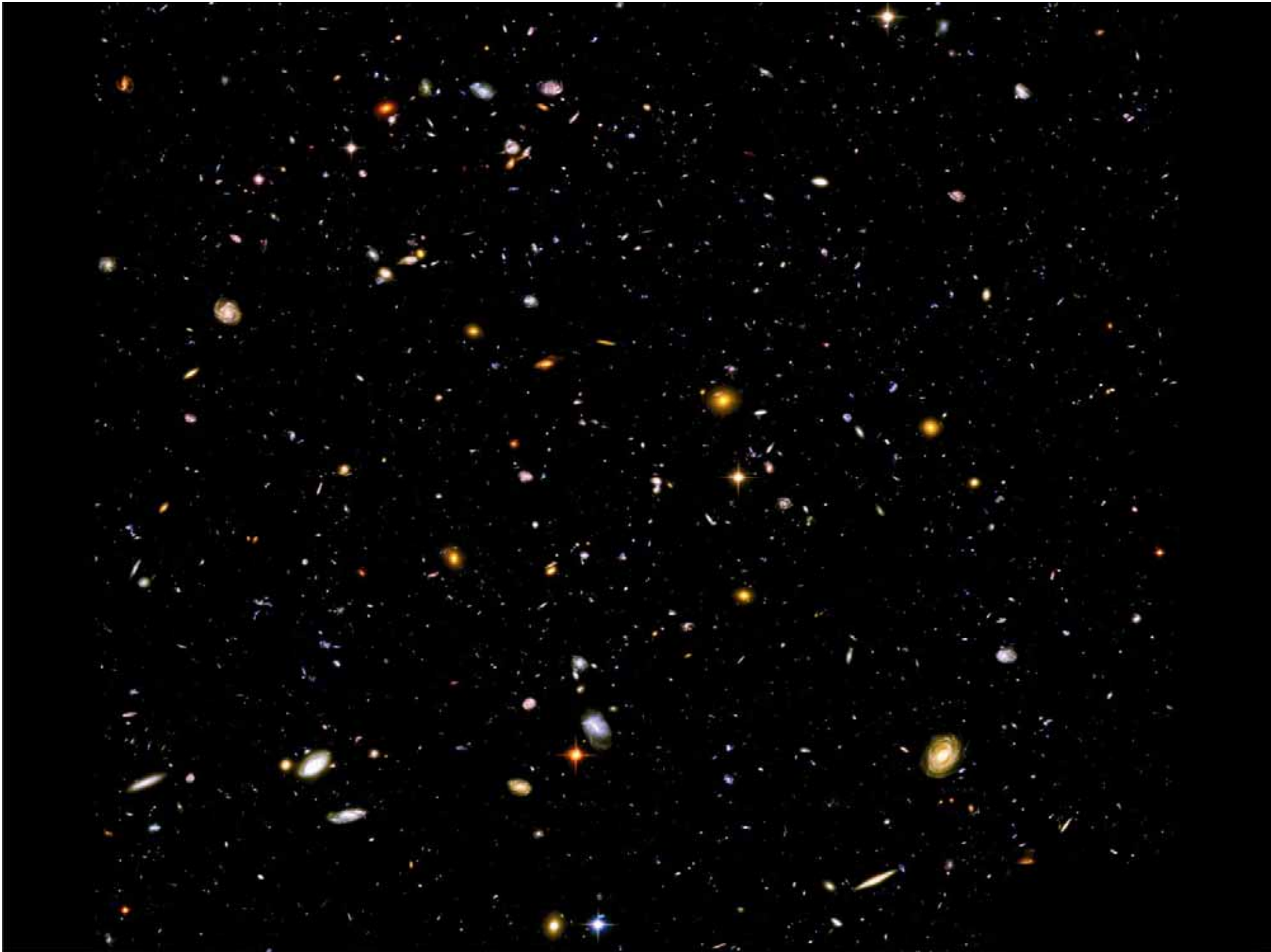
Materia agrupada y grandes vacios

2000 millones años luz

100 million ly



Materia agrupada y grandes vacios



DESCANSO

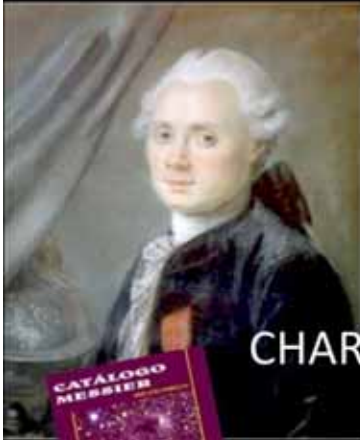


Cielo PROFUNDO
QUÉ PODEMOS VER...

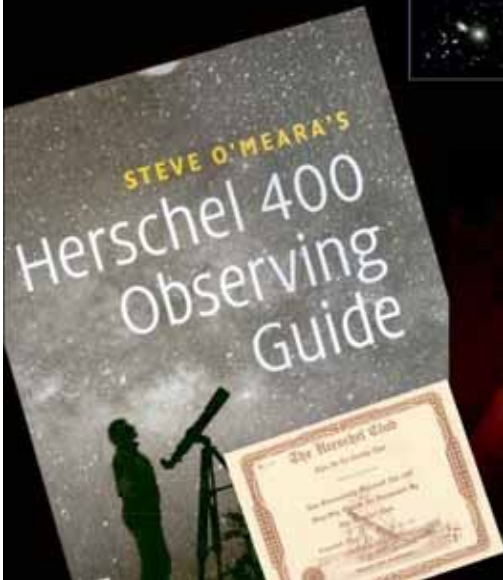
Foto: Leonor y Fernando

Curso de astronomía básica

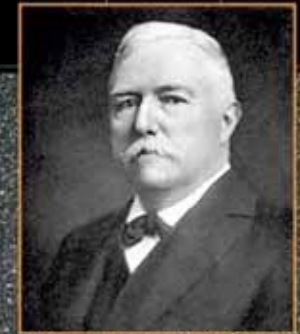




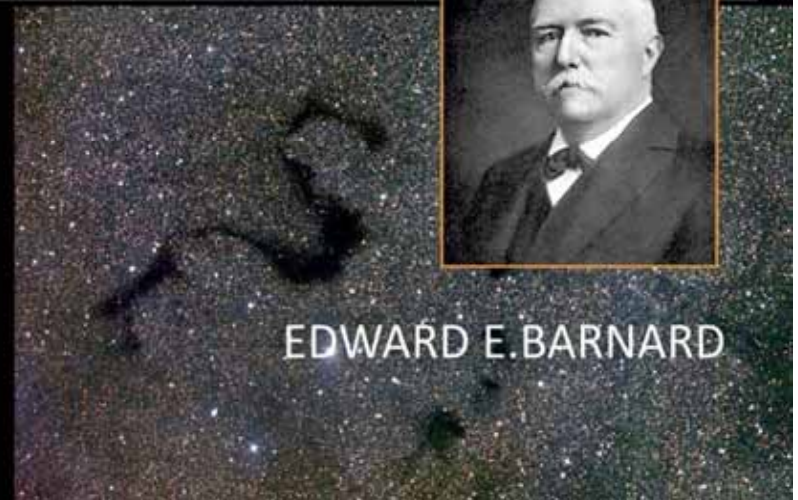
CHARLES MESSIER



WILLIAM & CAROLINE HERSCHEL

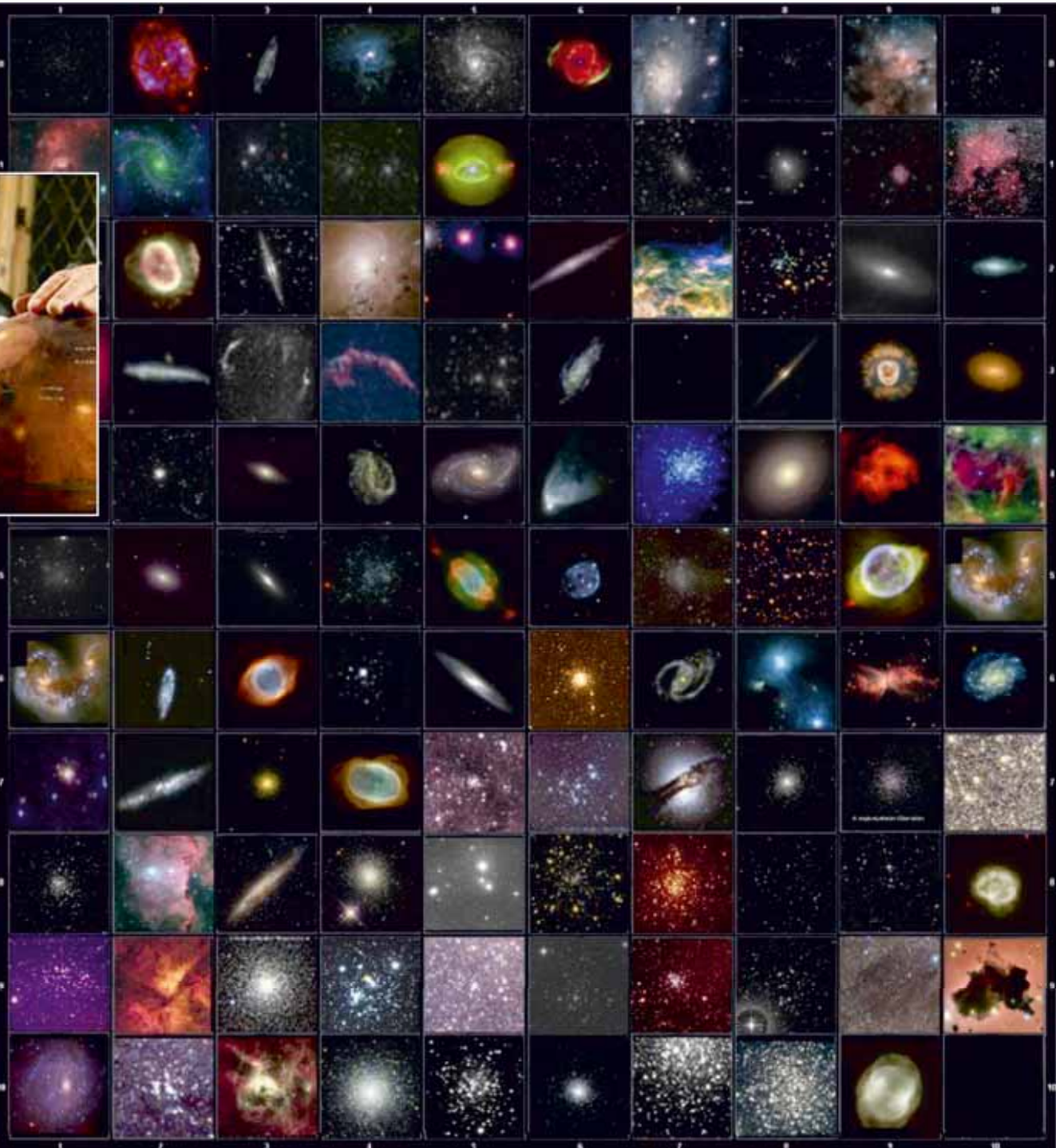
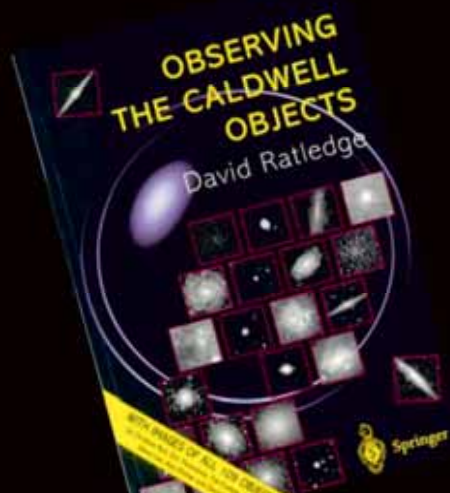


EDWARD E. BARNARD





PATRICK
CALDWELL
MOORE





ATLAS

CATÁLOGOS





Cielo PROFUNDO
VARIEDAD

ASOCIACIONES ESTELARES

ORION

HYADES

PERSEO

OSA MAYOR





PLEYADES

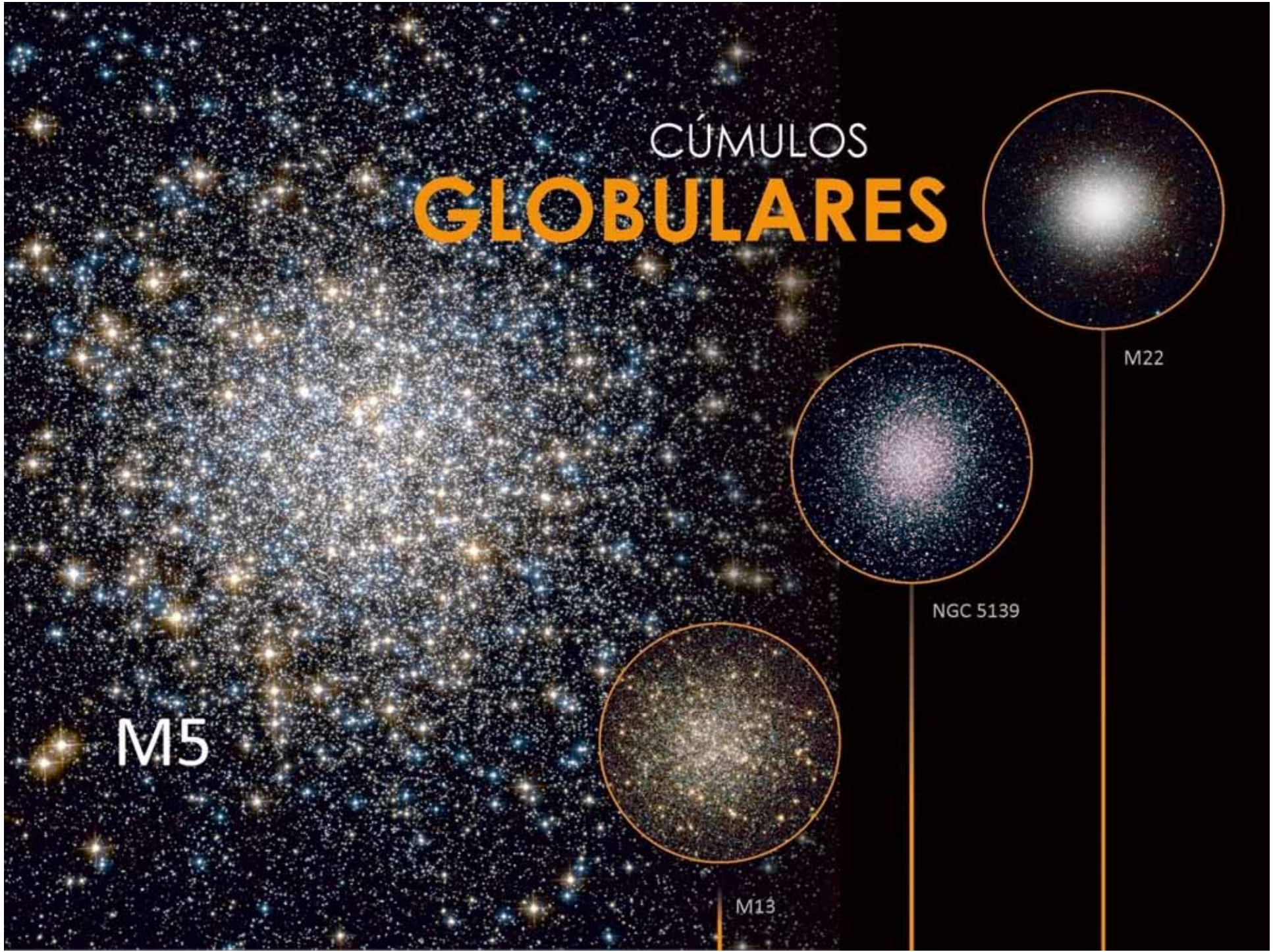
DOBLE CÚMULO

LA PERCHA

CÚMULOS
ABIERTOS

ET

CÚMULOS GLOBULARES

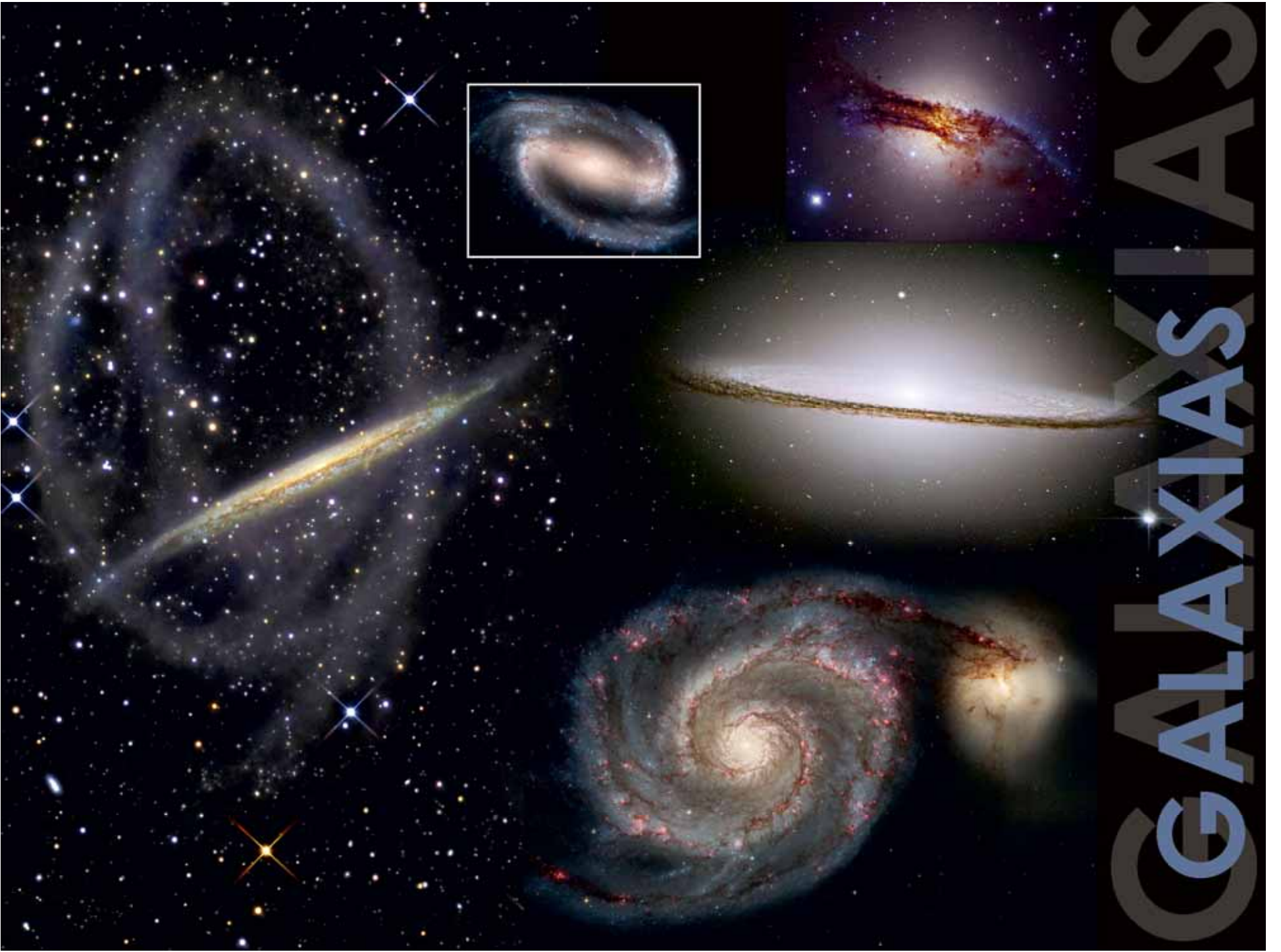


M5

M13

NGC 5139

M22



NEBULOSAS DE EMISIÓN





NEBULOSAS OSCURAS

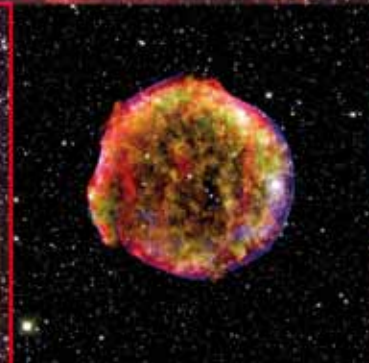
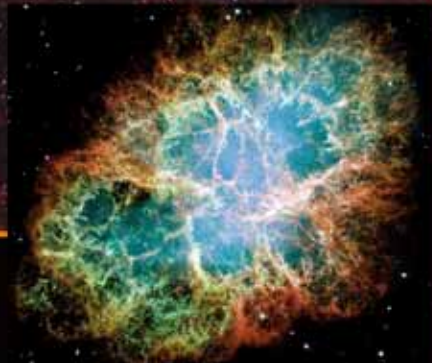


NEBULOSAS
PLANETARIAS



NEBULOSAS REFLEXIÓN
DE REFLEXIÓN

REMANENTES
SUPERNOVA



HEXÁGONO DE INVIERNO



Auriga

Géminis

Tauro

Can Menor

Orión

Can Mayor



Capella

Cástor

Aldebarán

Proción

Rigel

Sirio

Hexágono de invierno

Cielo de Invierno



- Nebulosas planetarias
- Cúmulos globulares
- Galaxias
- Cúmulos abiertos
- Nebulosas de emisión, reflexión y oscuras
- Remanentes de Supernova

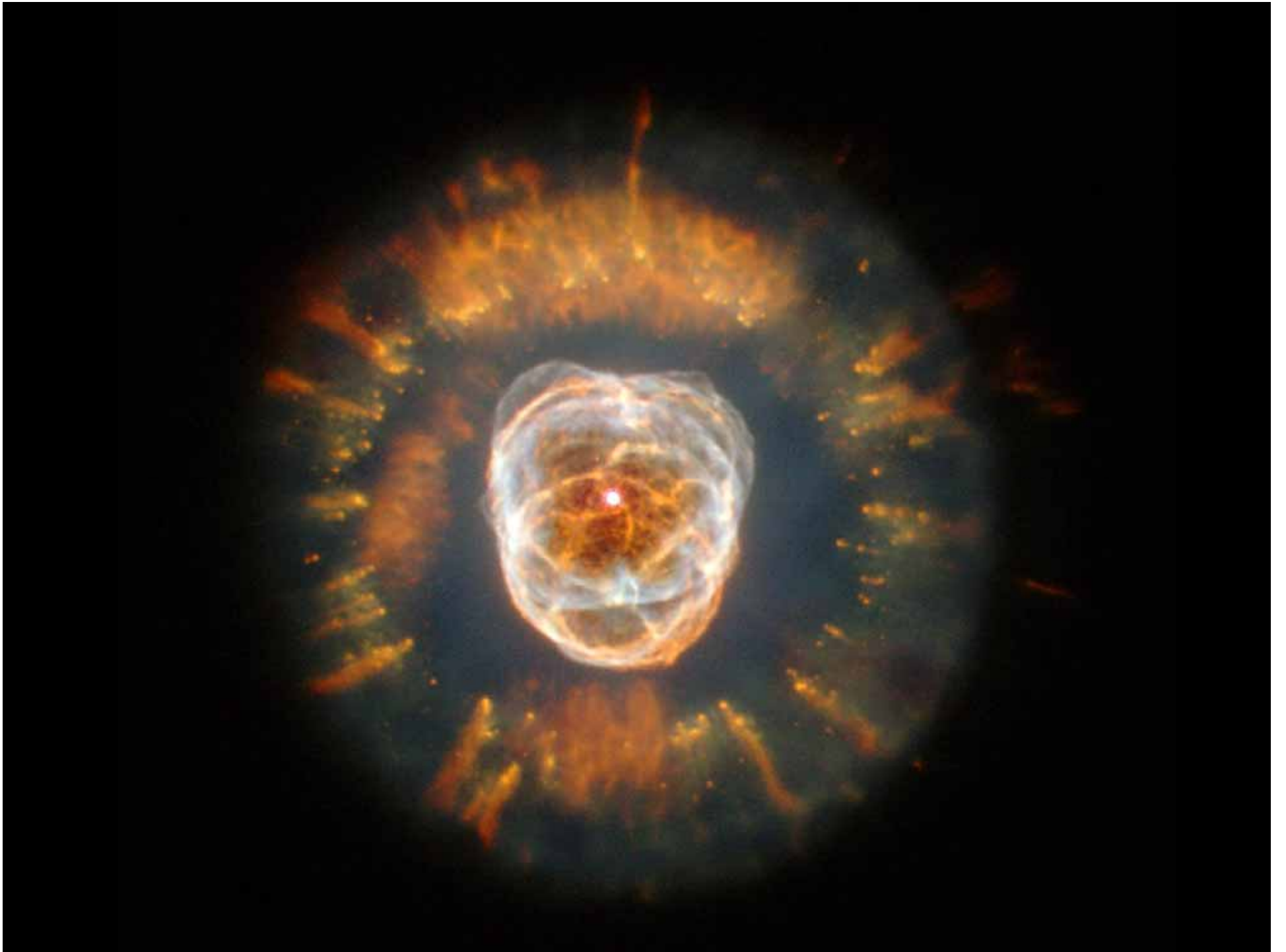
Nebulosa Ojo de Gato



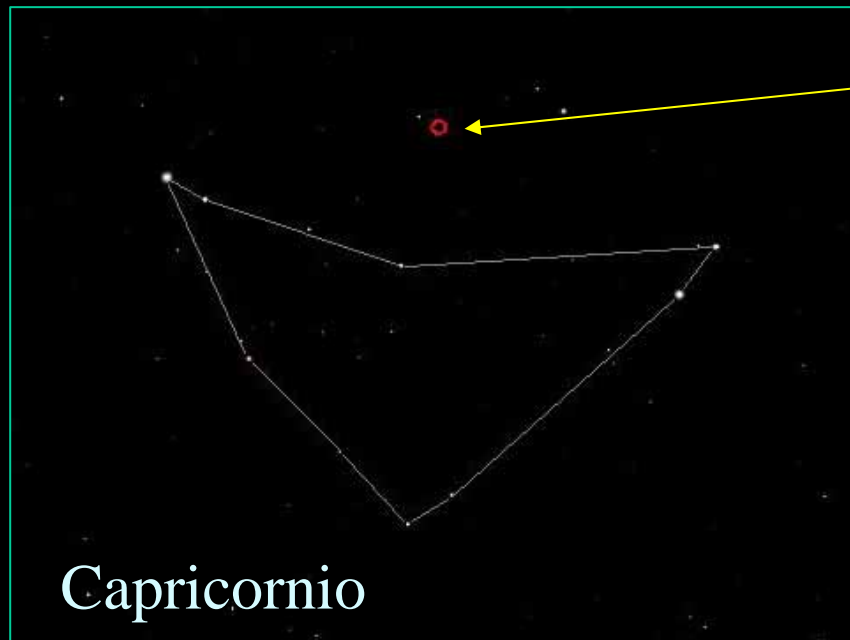


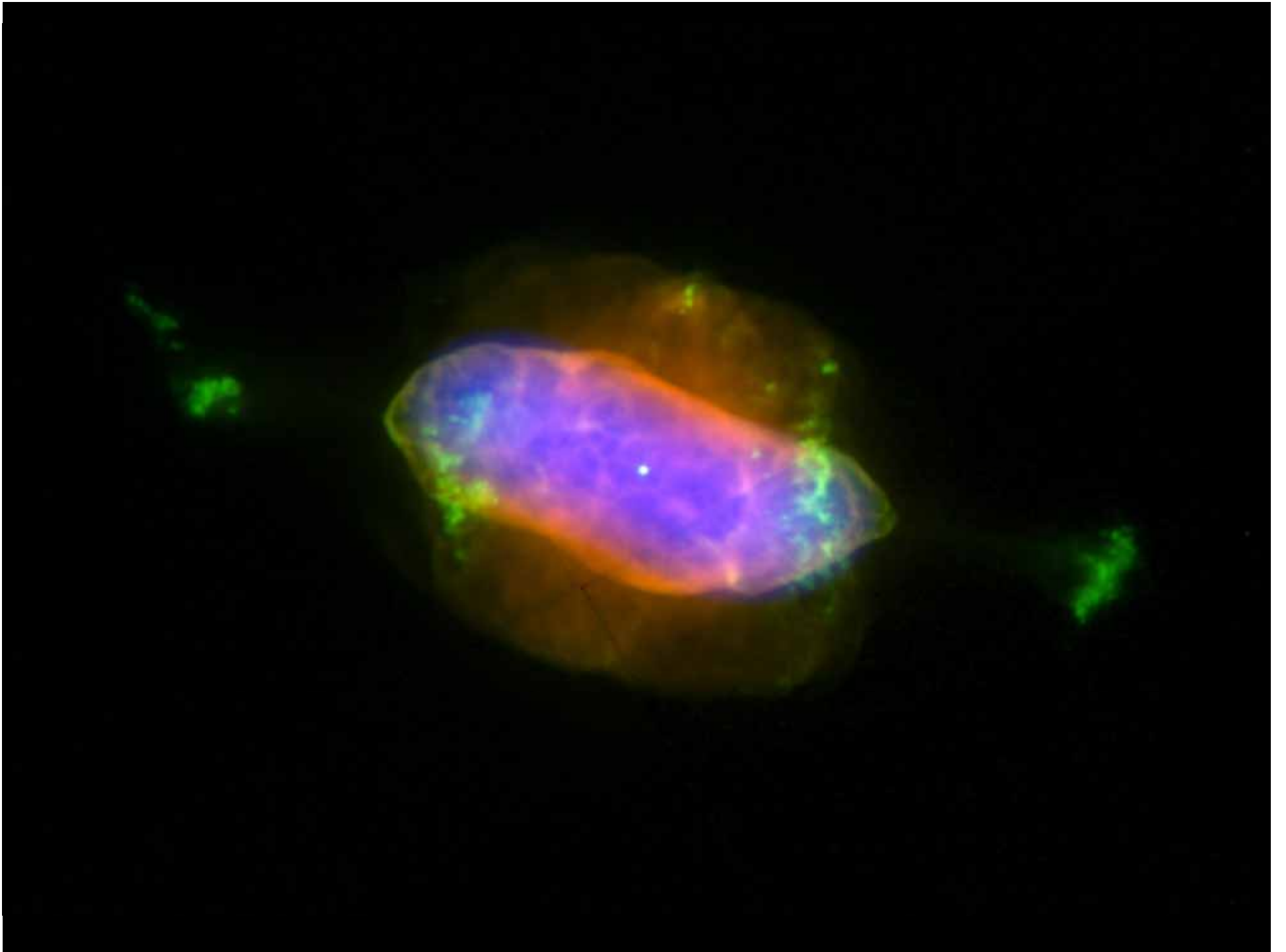
Nebulosa Eskimo



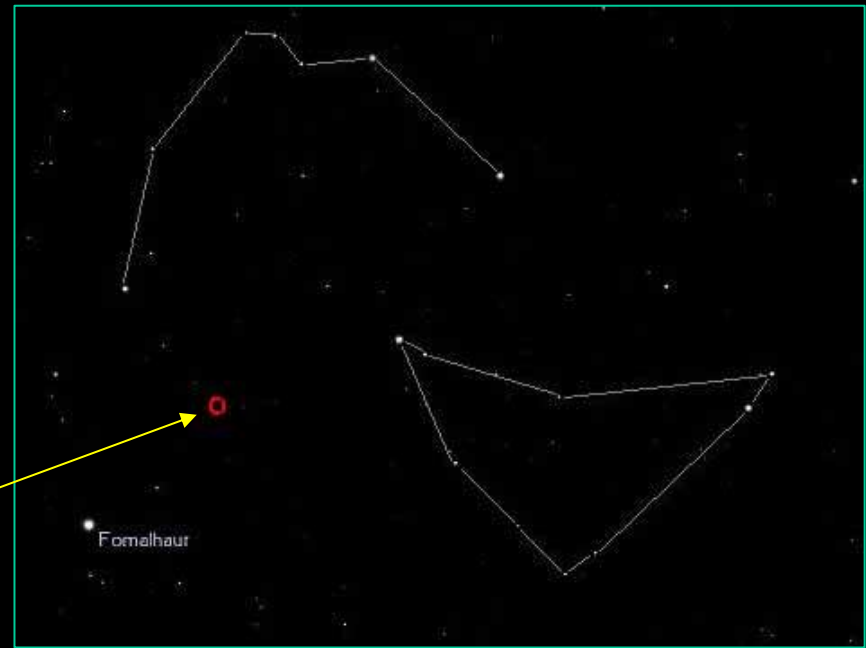


Nebulosa Saturno





Nebulosa Helix



Acuario



Nebulosa SnowBall



Andrómeda

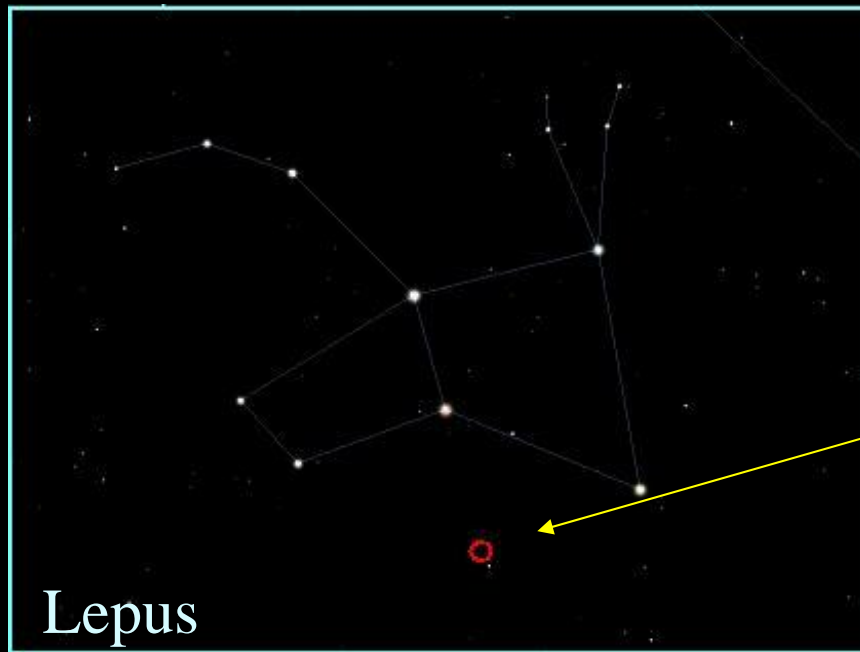


Cielo de Invierno



- Nebulosas planetarias
- Cúmulos globulares
- Galaxias
- Cúmulos abiertos
- Nebulosas de emisión, reflexión y oscuras
- Remanentes de Supernova

M79



Lepus



M79




M15

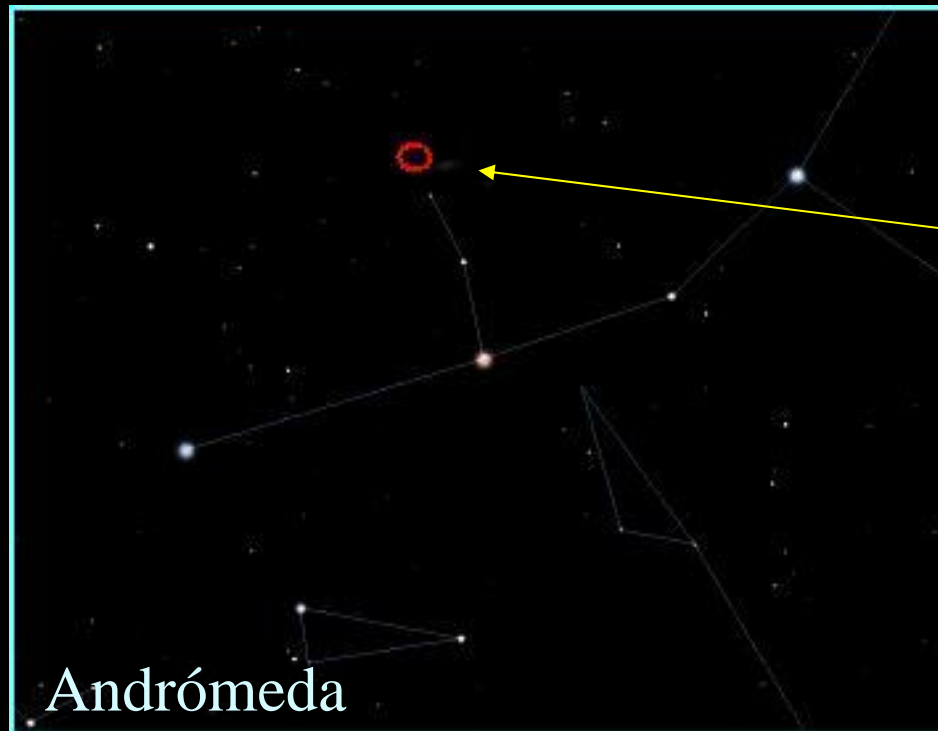


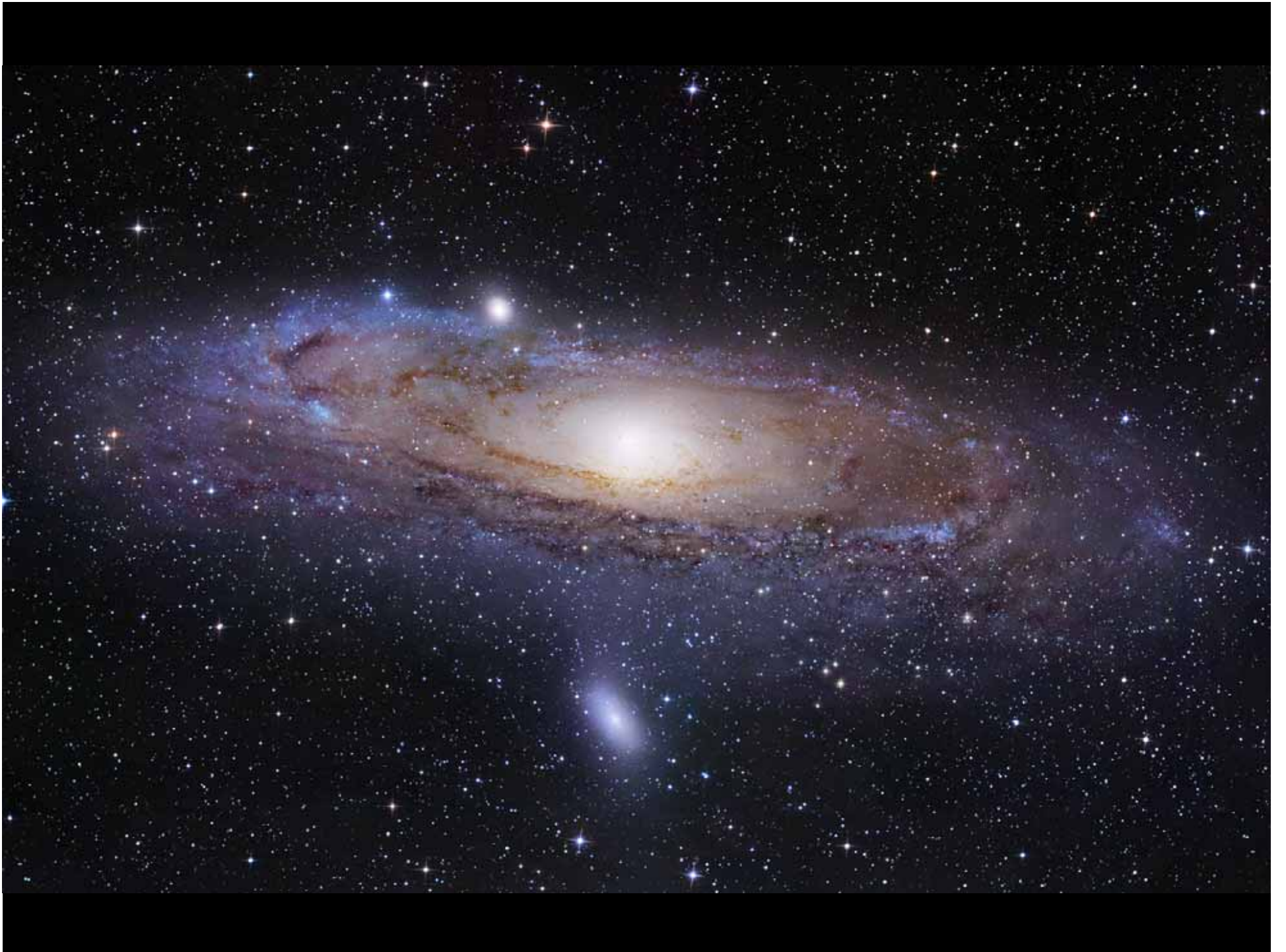


Cielo de Invierno

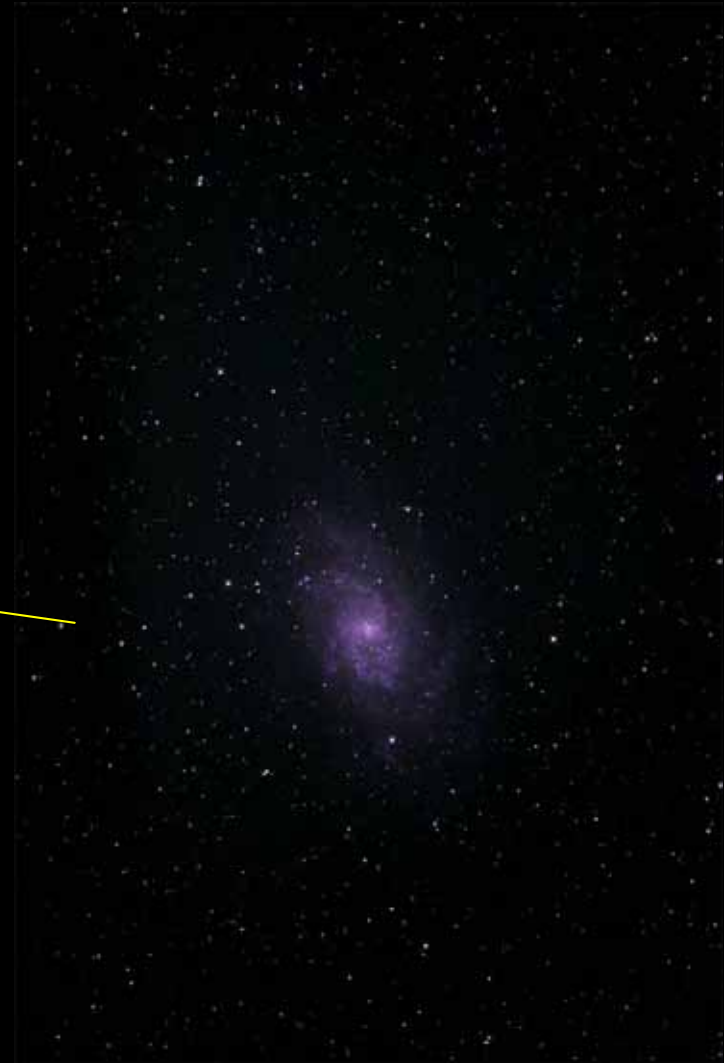
- Nebulosas planetarias
 - Cúmulos globulares
 - **Galaxias**
 - Cúmulos abiertos
 - Nebulosas de emisión, reflexión y oscuras
 - Remanentes de Supernova
- 

GALAXIA DE ANDRÓMEDA





GALAXIA DEL TRIÁNGULO





Cielo de Invierno

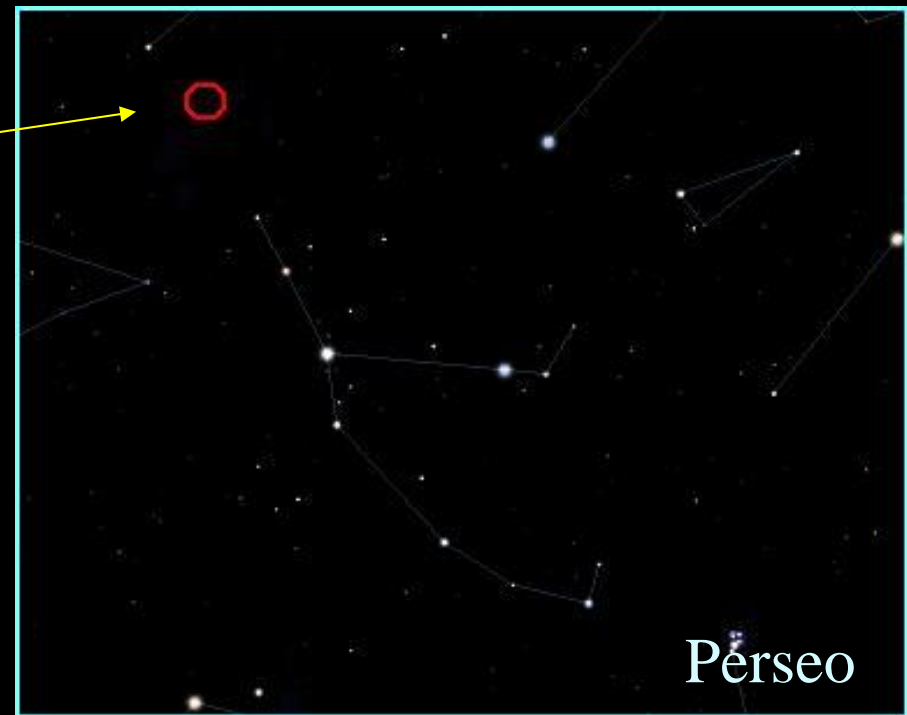
- Nebulosas planetarias
- Cúmulos globulares
- Galaxias
- Cúmulos abiertos
- Nebulosas de emisión, reflexión y oscuras
- Remanentes de Supernova

LAS PLÉYADES





DOBLE CÚMULO DE PERSEO





M41





NGC 2244





Cielo de Invierno

- Nebulosas planetarias
- Cúmulos globulares
- Galaxias
- Cúmulos abiertos
- Nebulosas de emisión, reflexión y oscuras
- Remanentes de Supernova

CABEZA DE CABALLO



CABEZA DE CABALLO

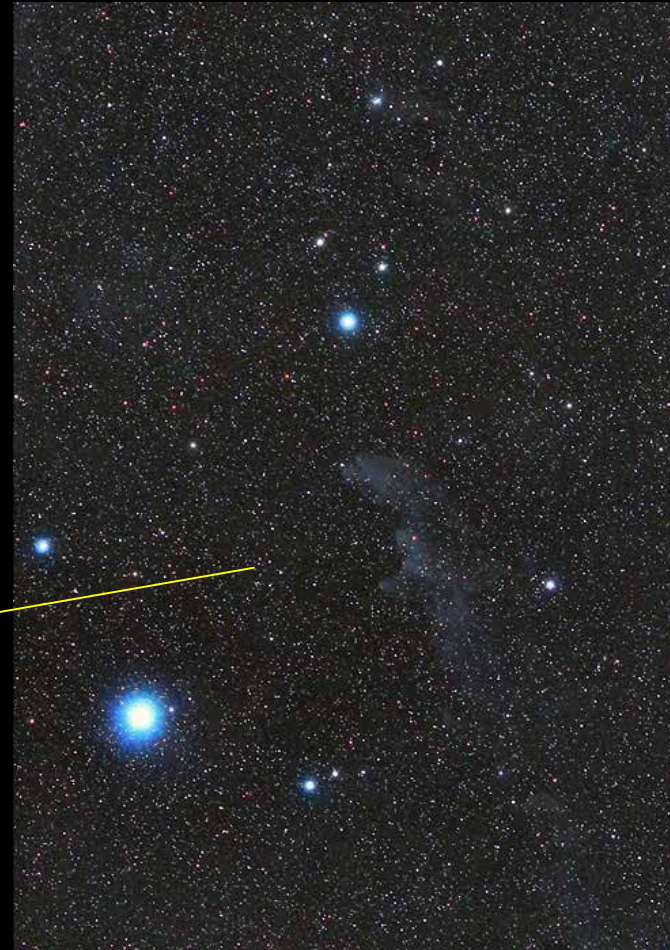
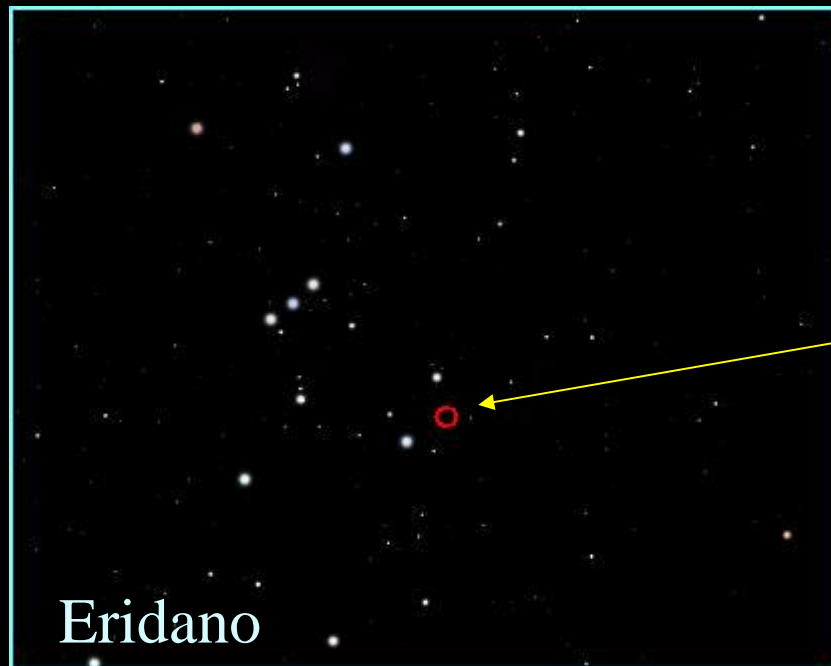


GRAN NEBULOSA DE ORIÓN



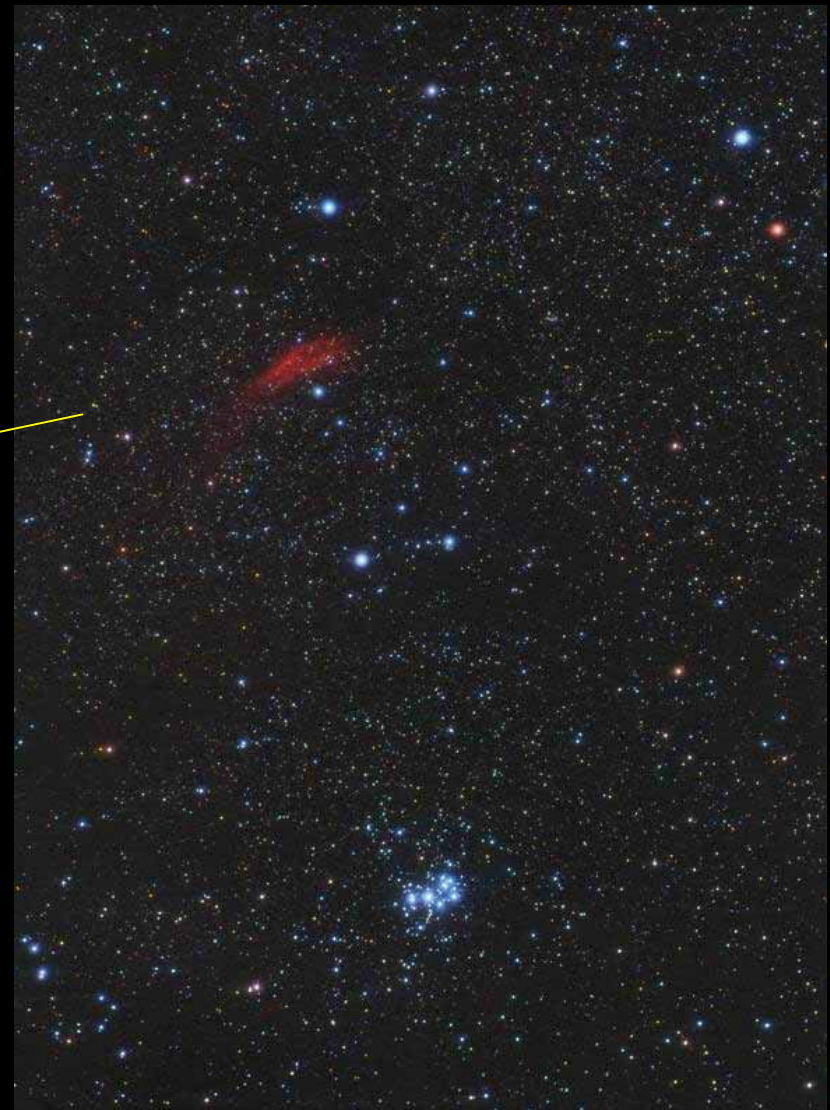


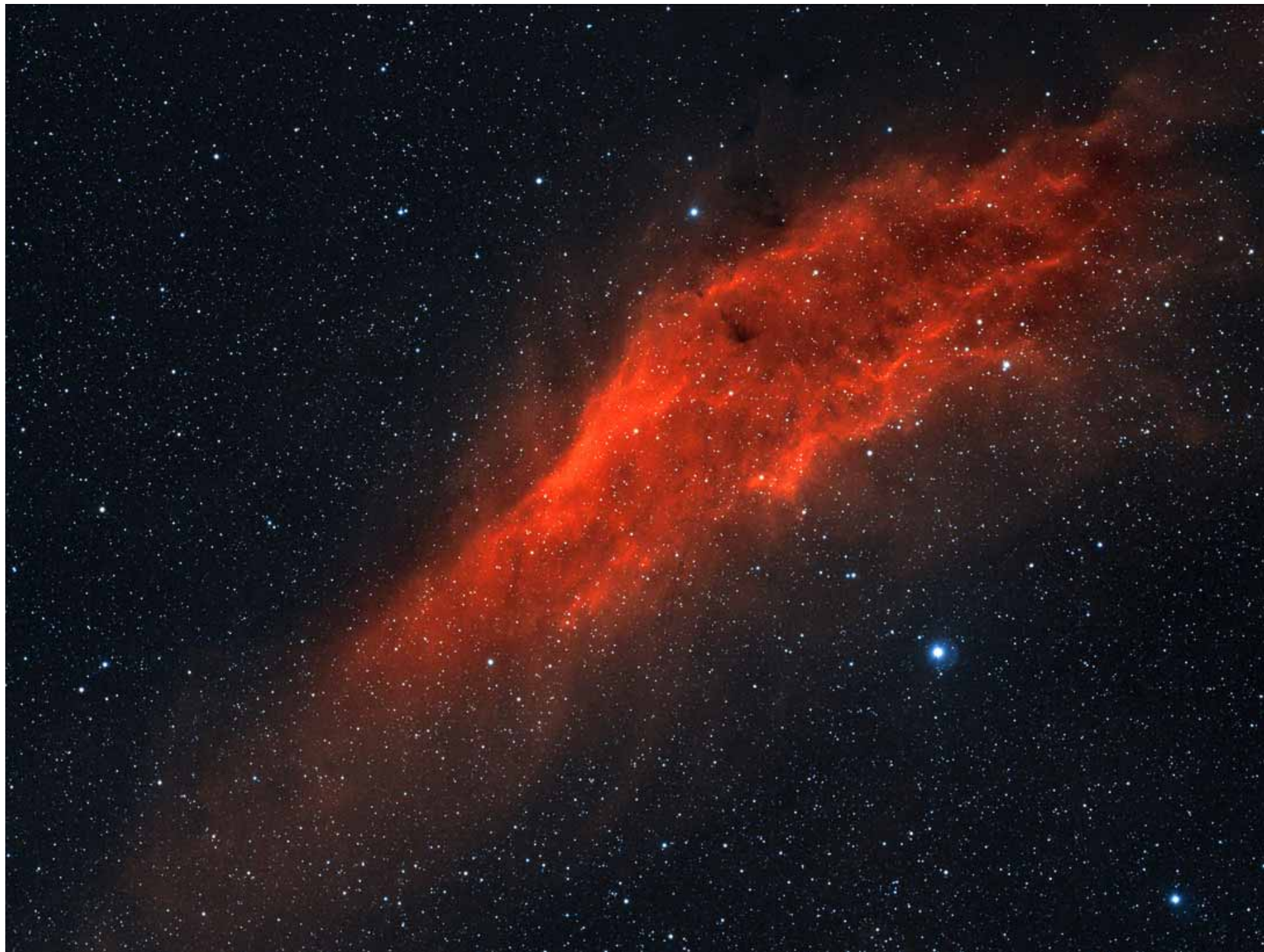
CABEZA DE BRUJA



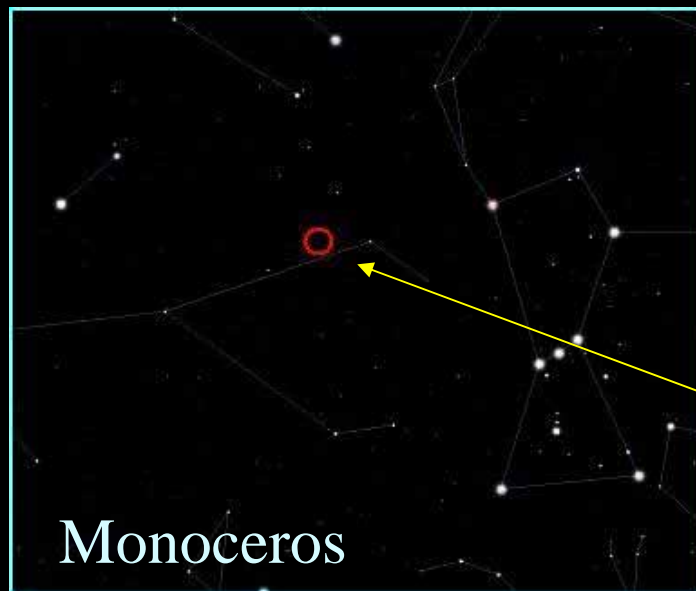


NEBULOSA CALIFORNIA





NEBULOSA DEL CONO



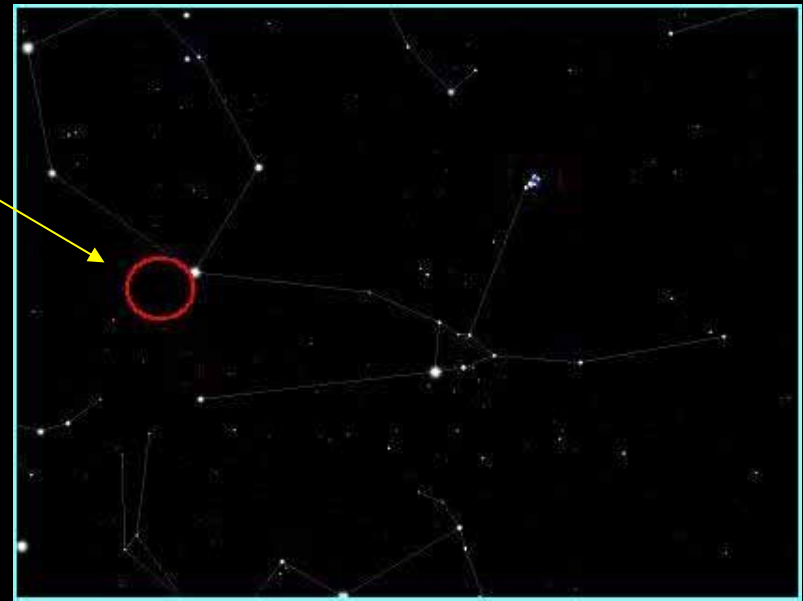


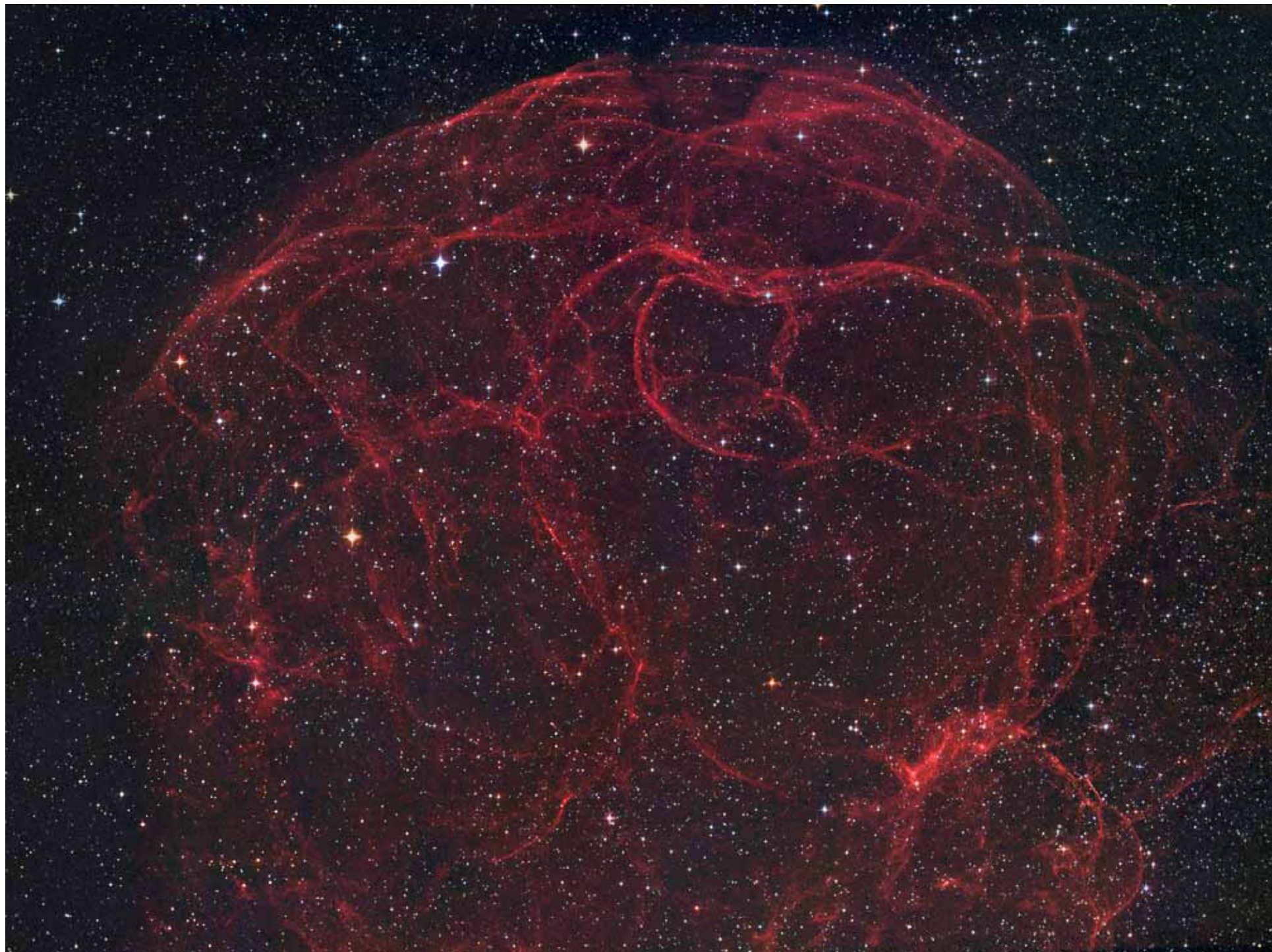
Cielo de Invierno

The background of the slide is a deep space image featuring a vast field of stars. A large, intricate nebula with a vibrant red and orange glow is the central focus, its wispy and filamentary structure resembling a complex web or a delicate lacework against the dark cosmic backdrop.

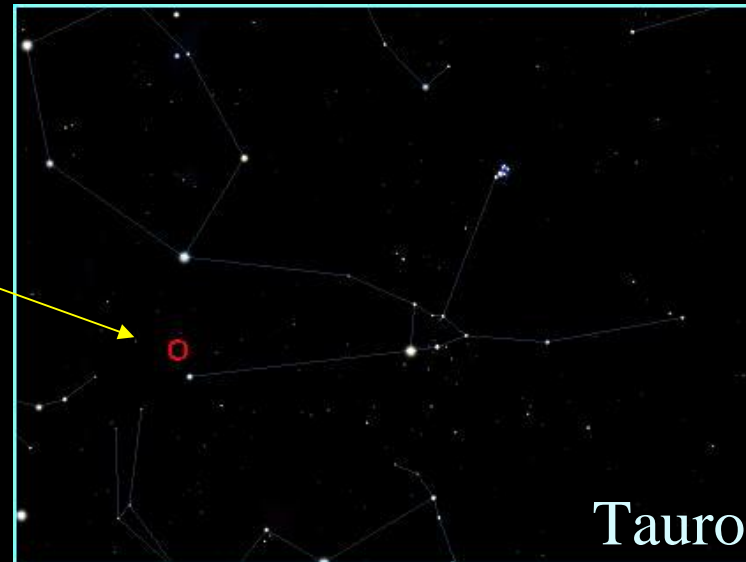
- Nebulosas planetarias
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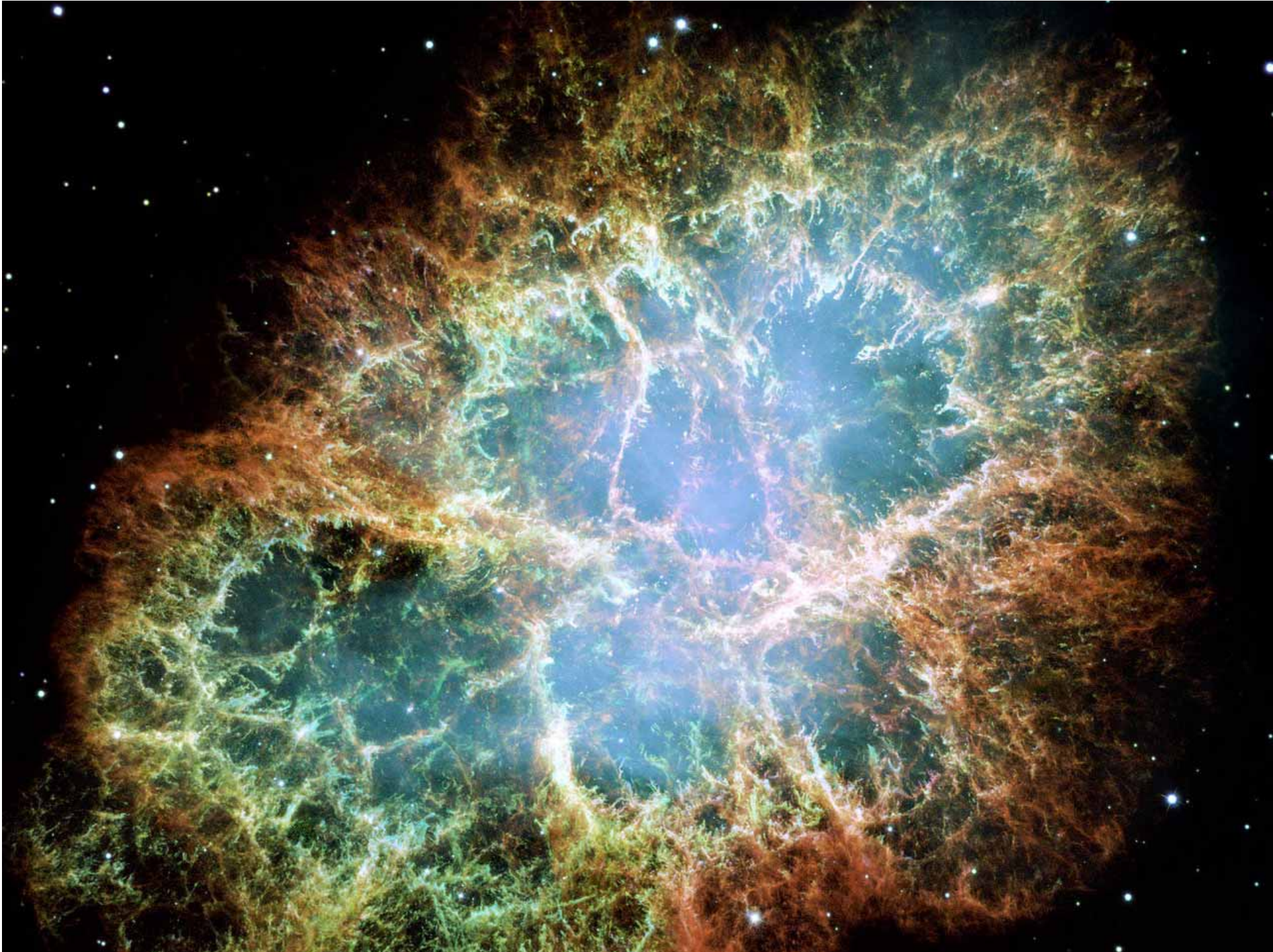
S 147





EL CANGREJO







¿Sabías que hay
tanta belleza ahí fuera?