
Celebrating the Wonder
of the Night Sky


*The heavens proclaim the glory of God.*
*The skies display his craftsmanship.*

*Psalm 19:1 NLT*

# Celebrating the Wonder of the Night Sky

*Light Year Calculation: Simple!*

[Speed] 300 000 km/s
[Time] x 60 s x 60 m x 24 h x 365.25 d

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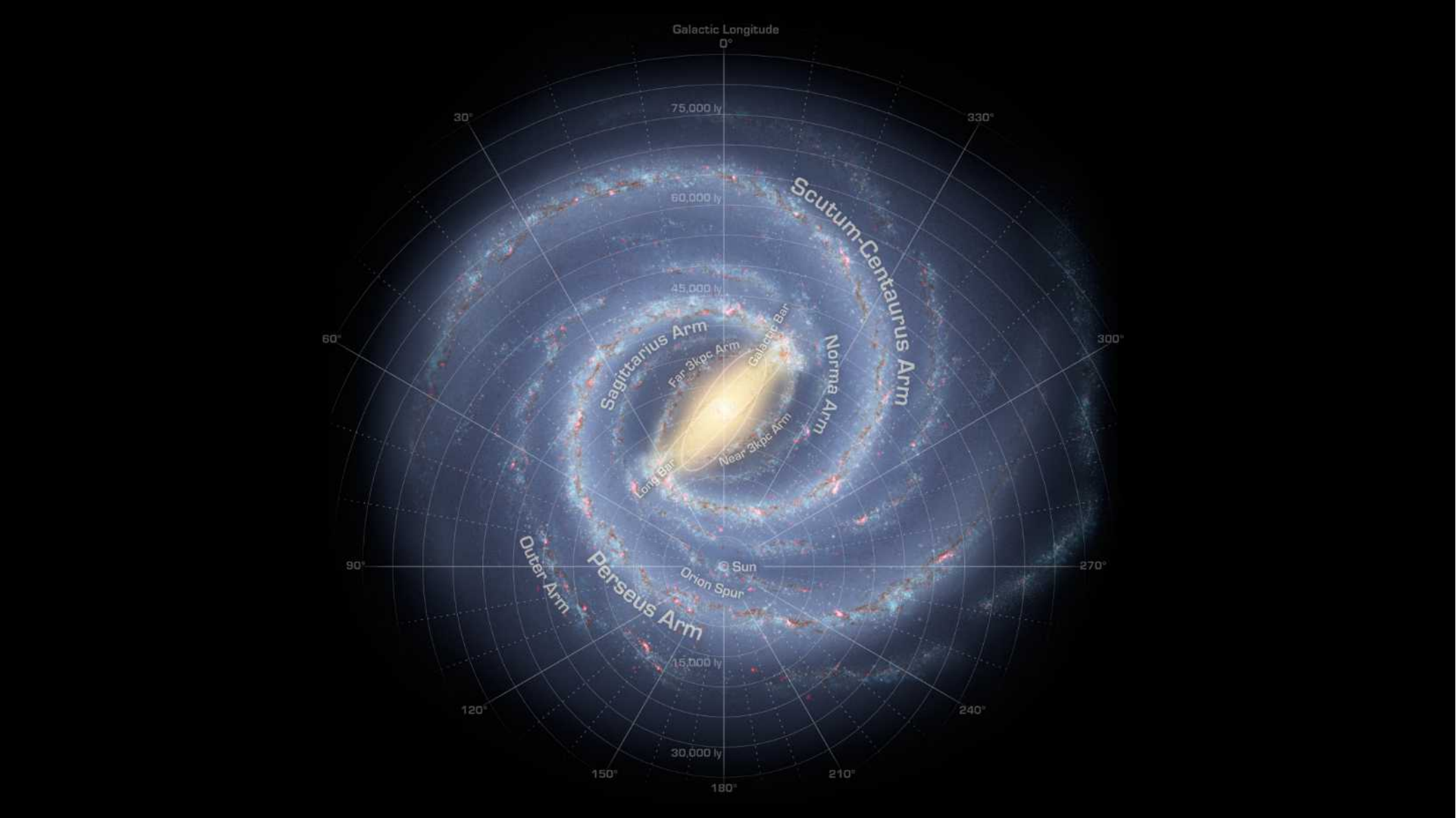
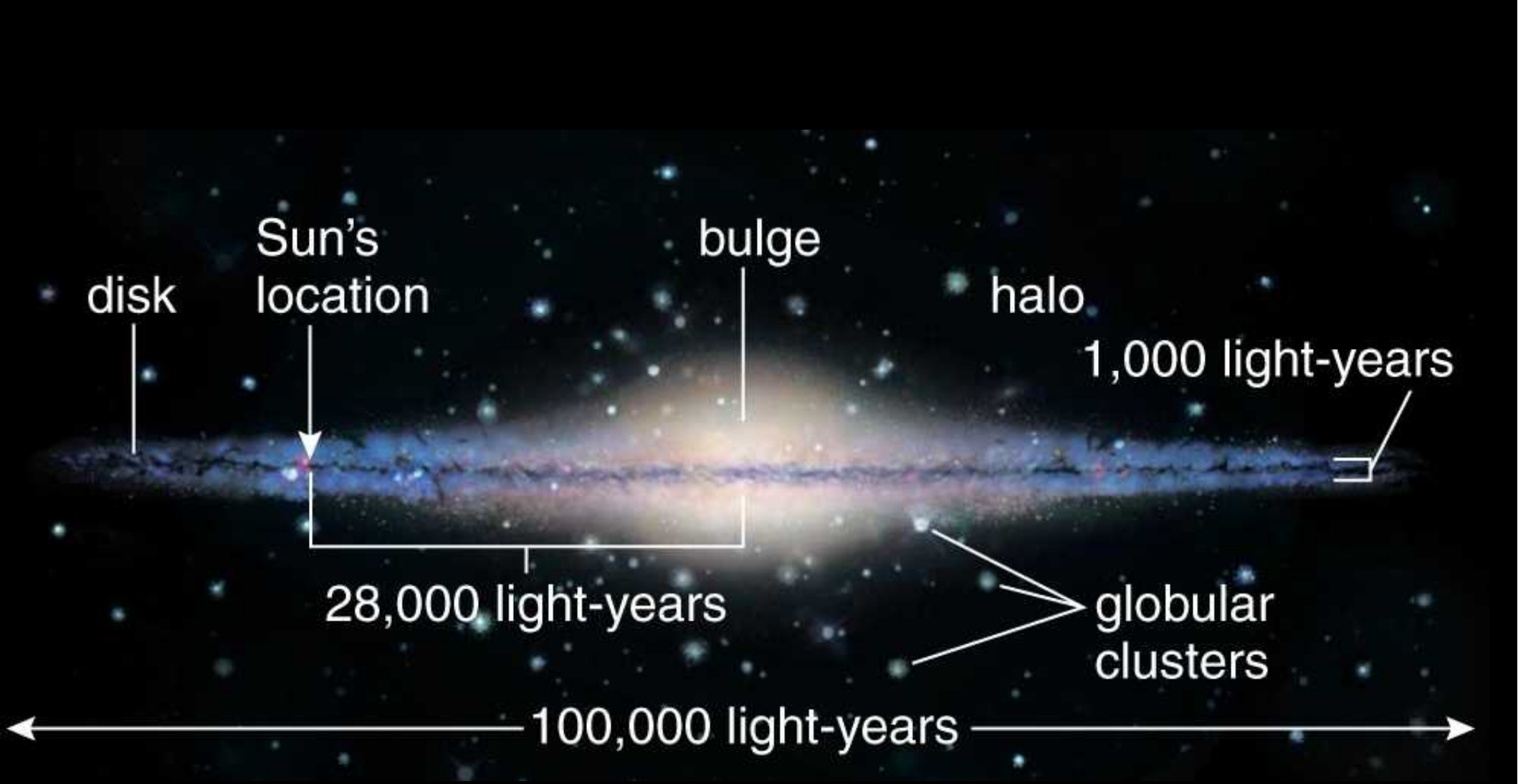
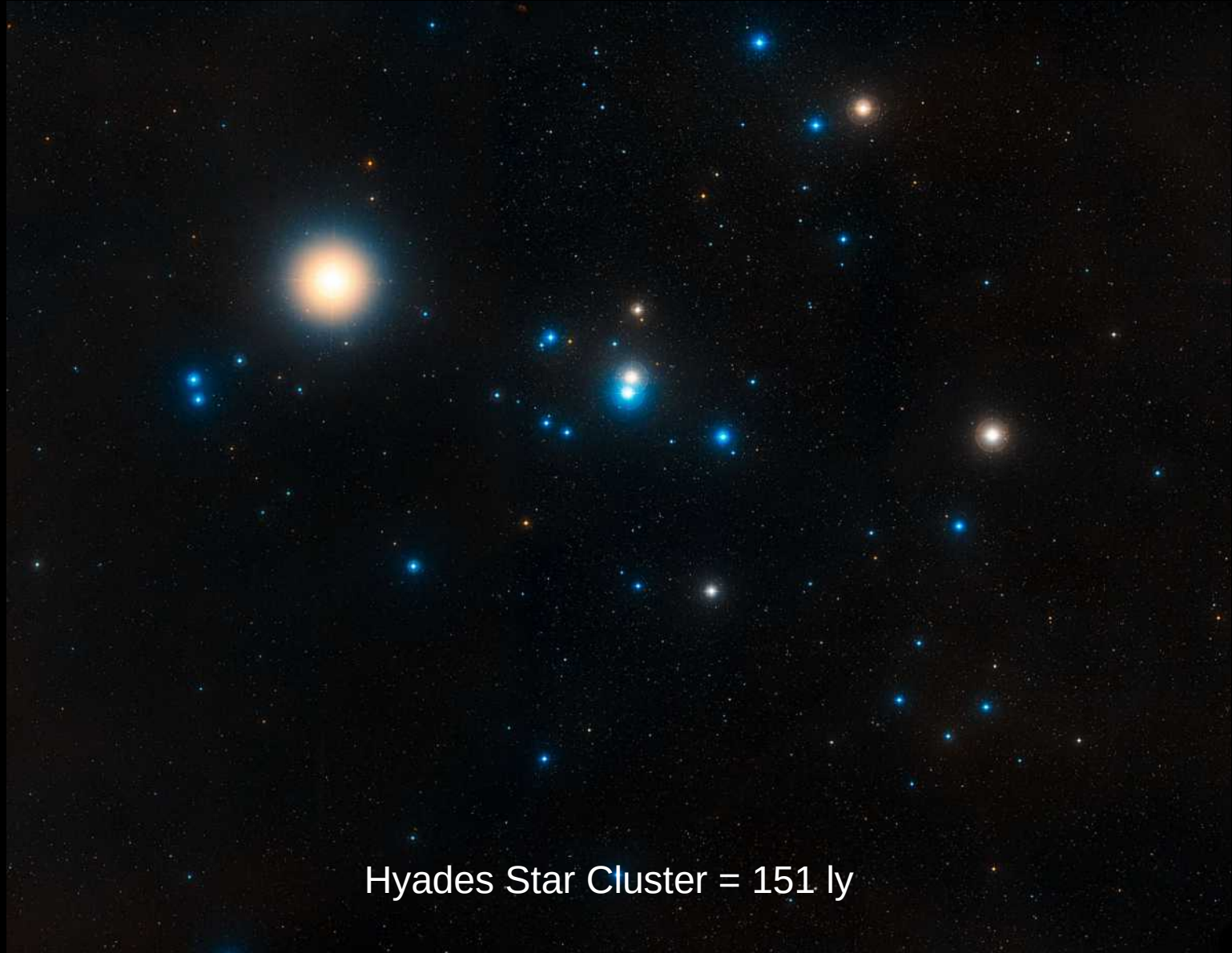
[Distance] ≈ 10 000 000 000 000 km
≈ 63 000 AU

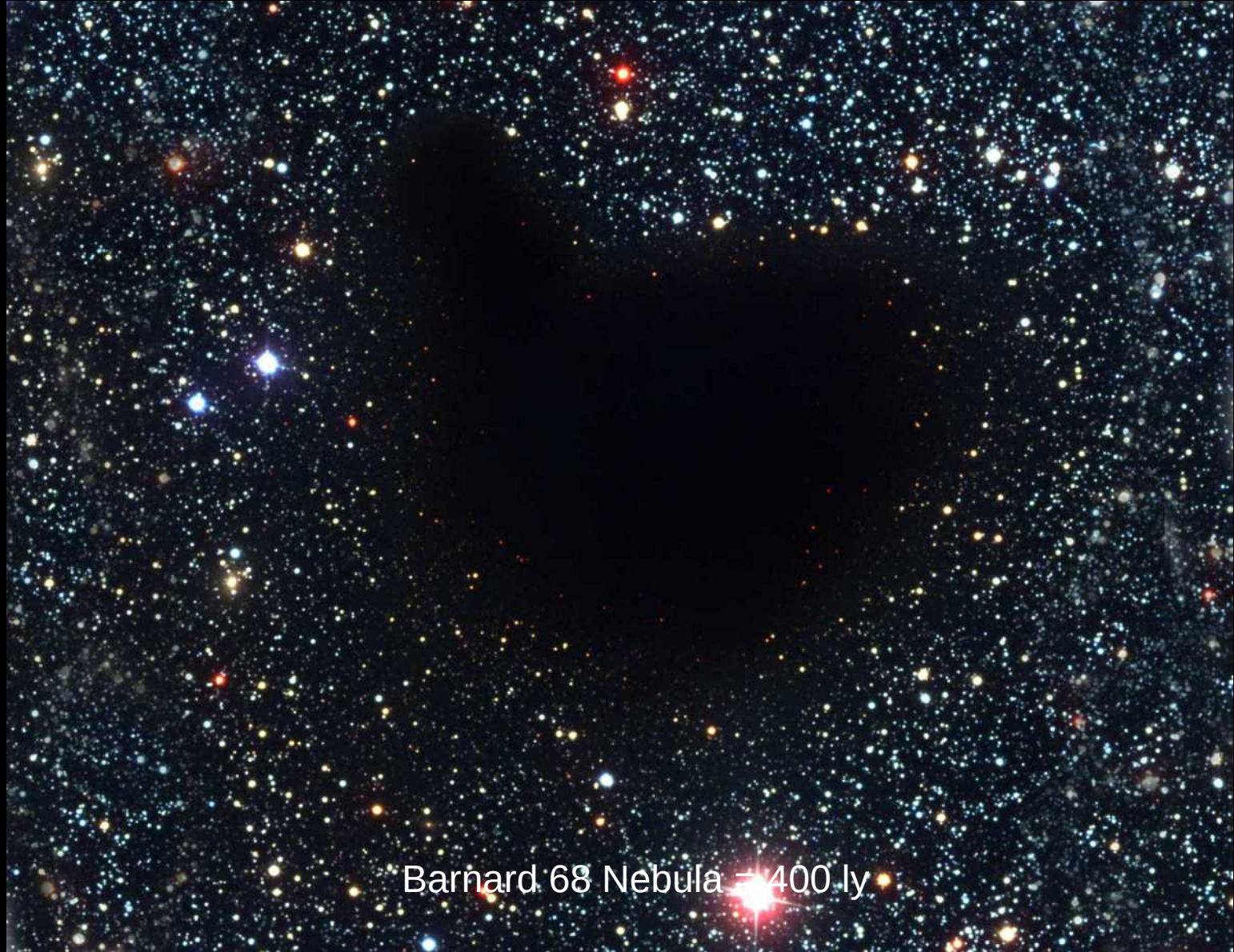
Celebrating the Wonder of the Night Sky

# Milkyway Galaxy

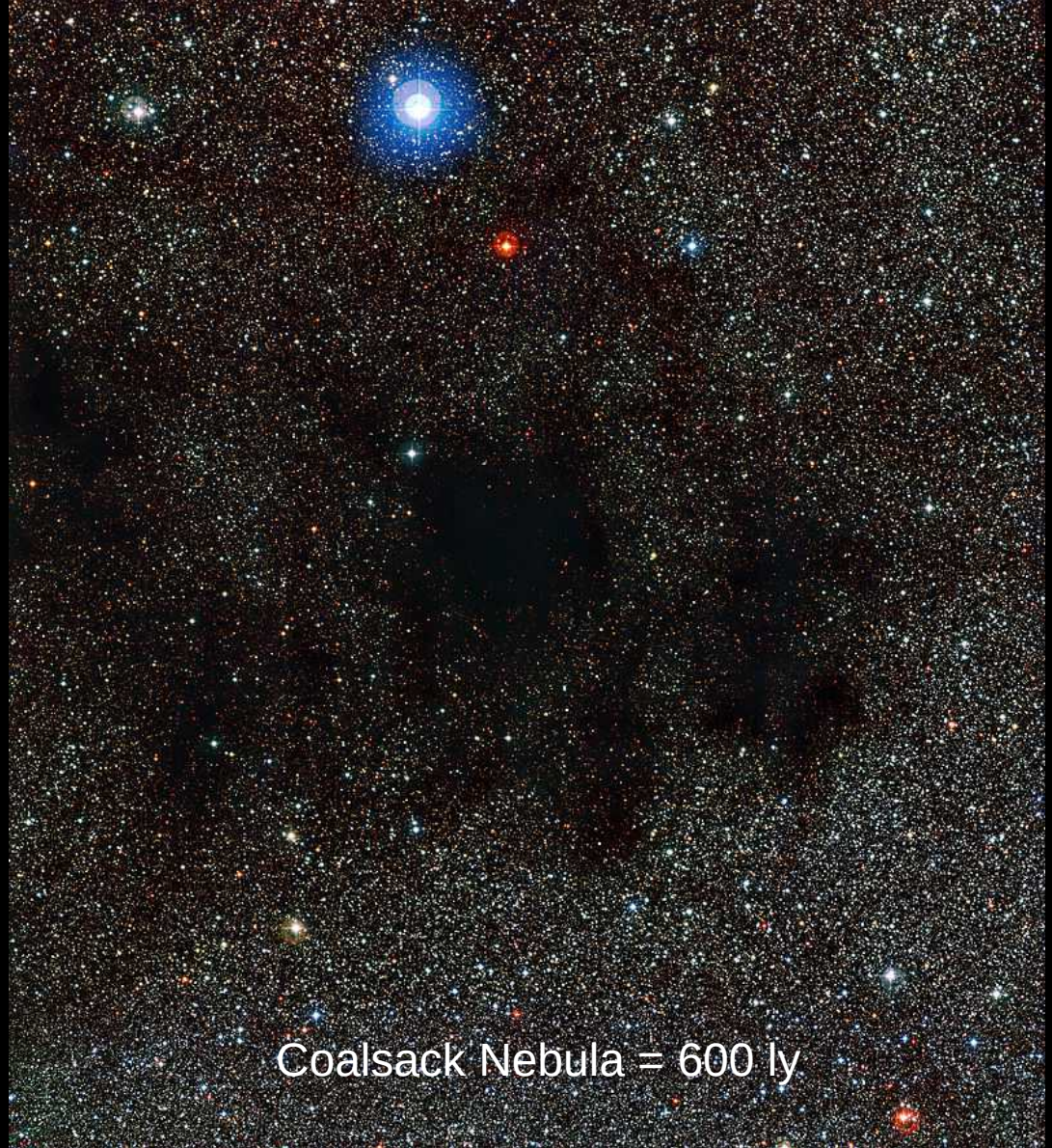

Galactic Longitude
0°
30°
330°
60°
300°
90°
270°
120°
240°
150°
210°
180°
75,000 ly
60,000 ly
45,000 ly
30,000 ly
15,000 ly
Scutum-Centaurus Arm
Sagittarius Arm
Norma Arm
Perseus Arm
Outer Arm
Far 3kpc Arm
Galactic Bar
Near 3kpc Arm
Long Bar
Sun
Orion Spur

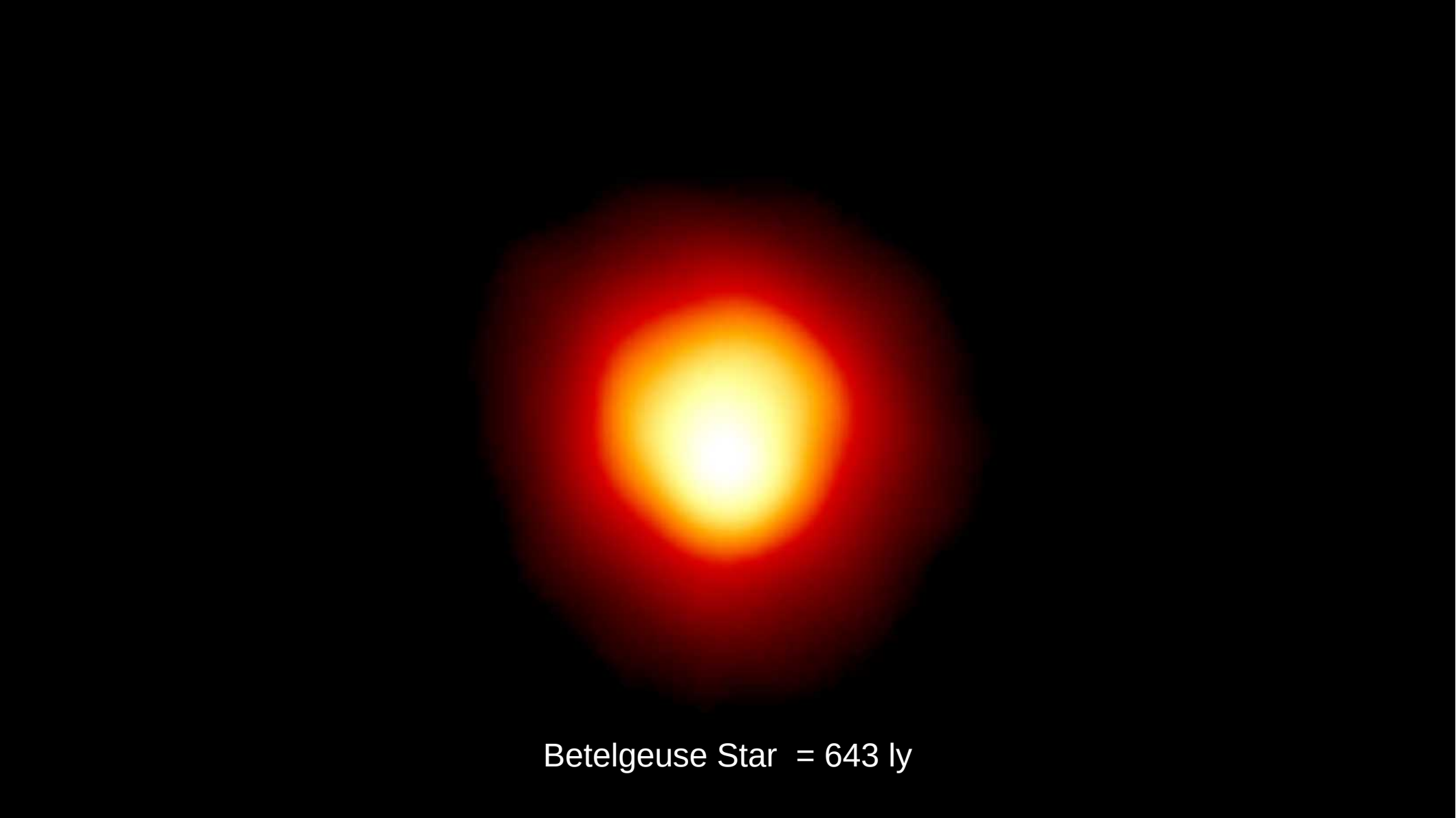

Sun's
location
bulge
disk
halo
1,000 light-years
28,000 light-years
globular
clusters
100,000 light-years


Hyades Star Cluster = 151 ly


Barnard 68 Nebula – 400 ly

Pleiades Star Cluster = 444 ly


Coalsack Nebula = 600 ly

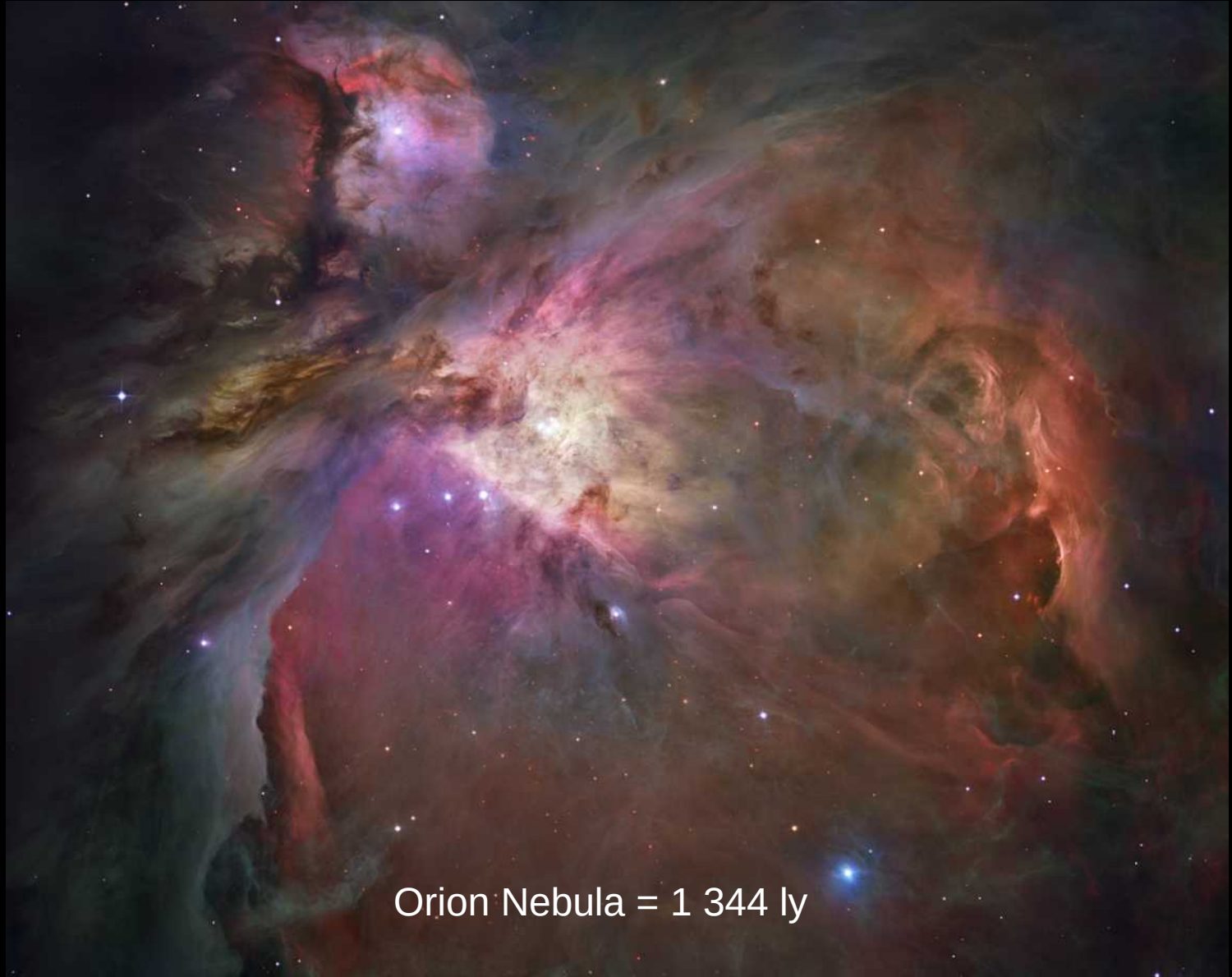

Betelgeuse Star = 643 ly


Helix Nebula = 700 ly


Helix Nebula = 700 ly


Witch Head Nebula = 900 ly

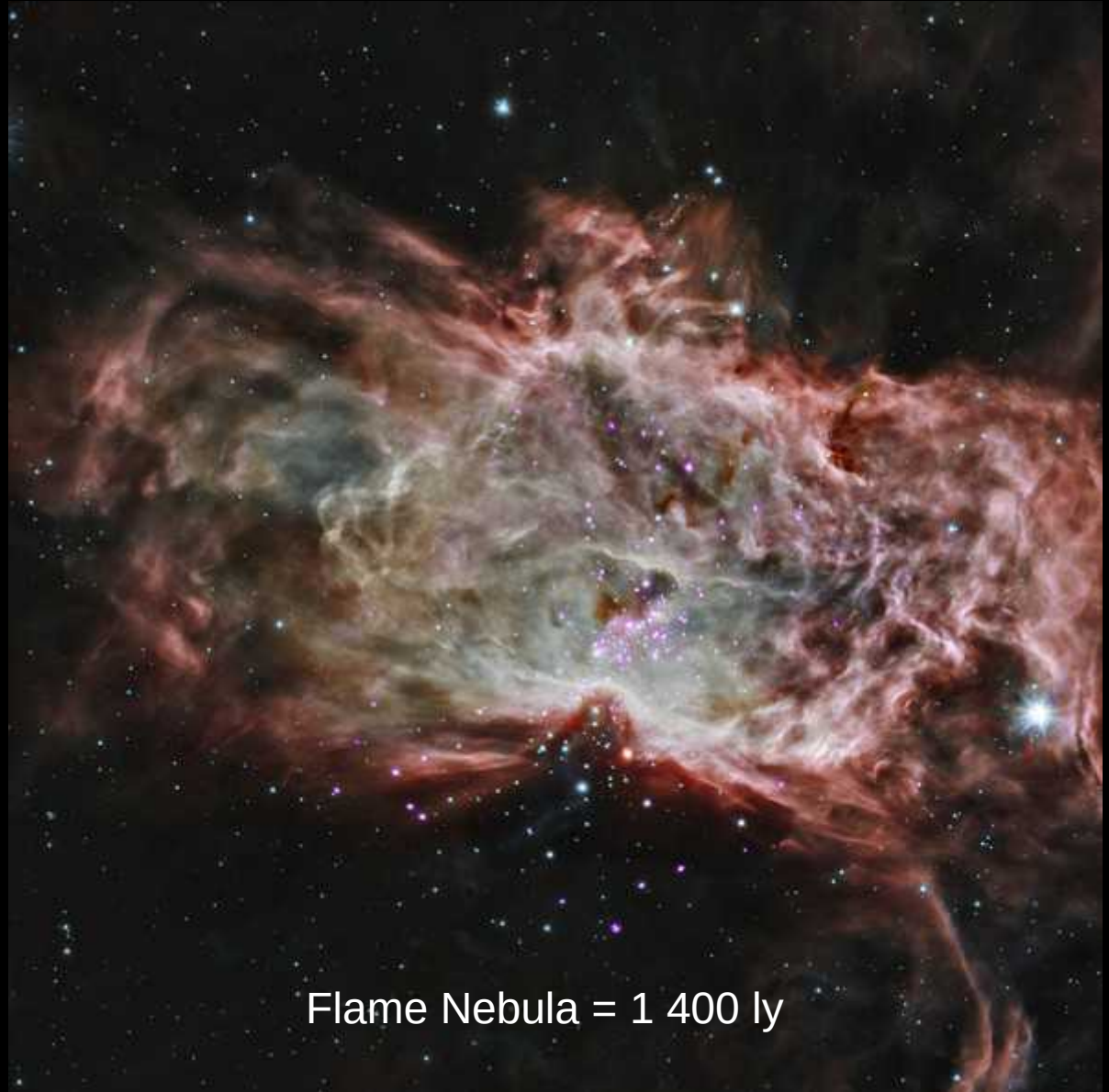
Spirograph Nebula = 1 100 ly


Orion Nebula = 1 344 ly

Dumbbell Nebula = 1 360 ly

Dumbbell Nebula = 1 360 ly

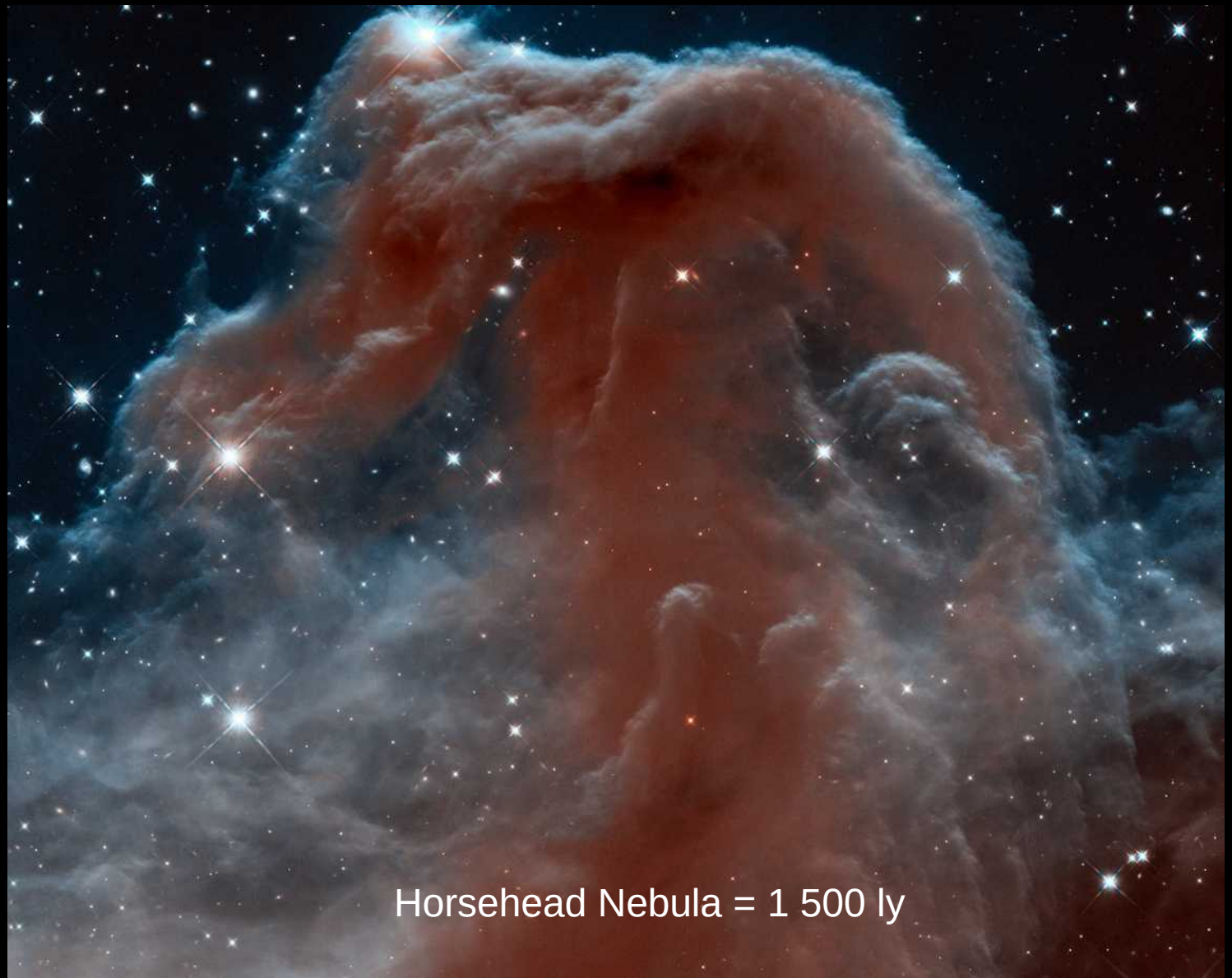

Flame Nebula = 1 400 ly



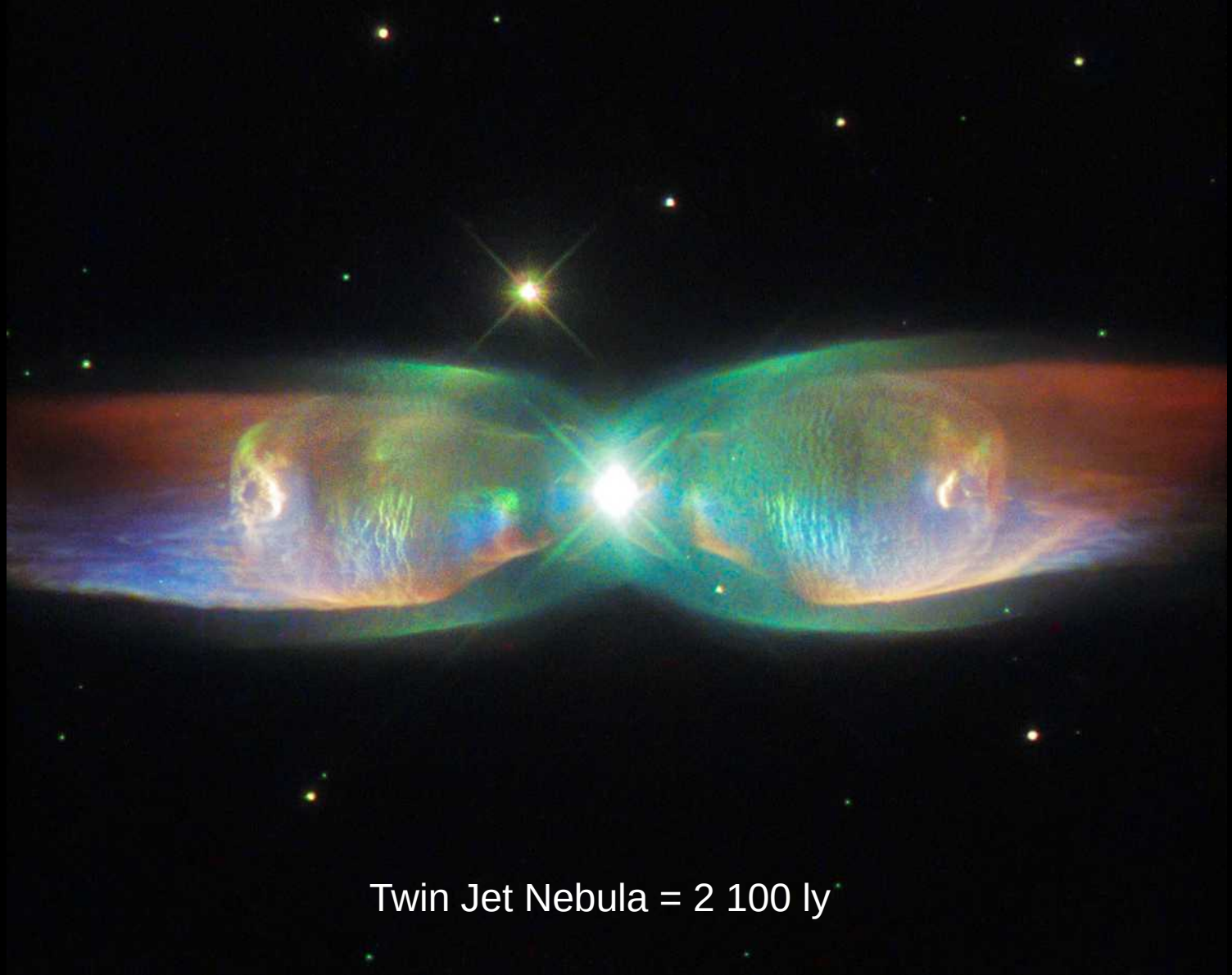
Flame Nebula = 1 400 ly

Veil Nebula = 1 470 ly

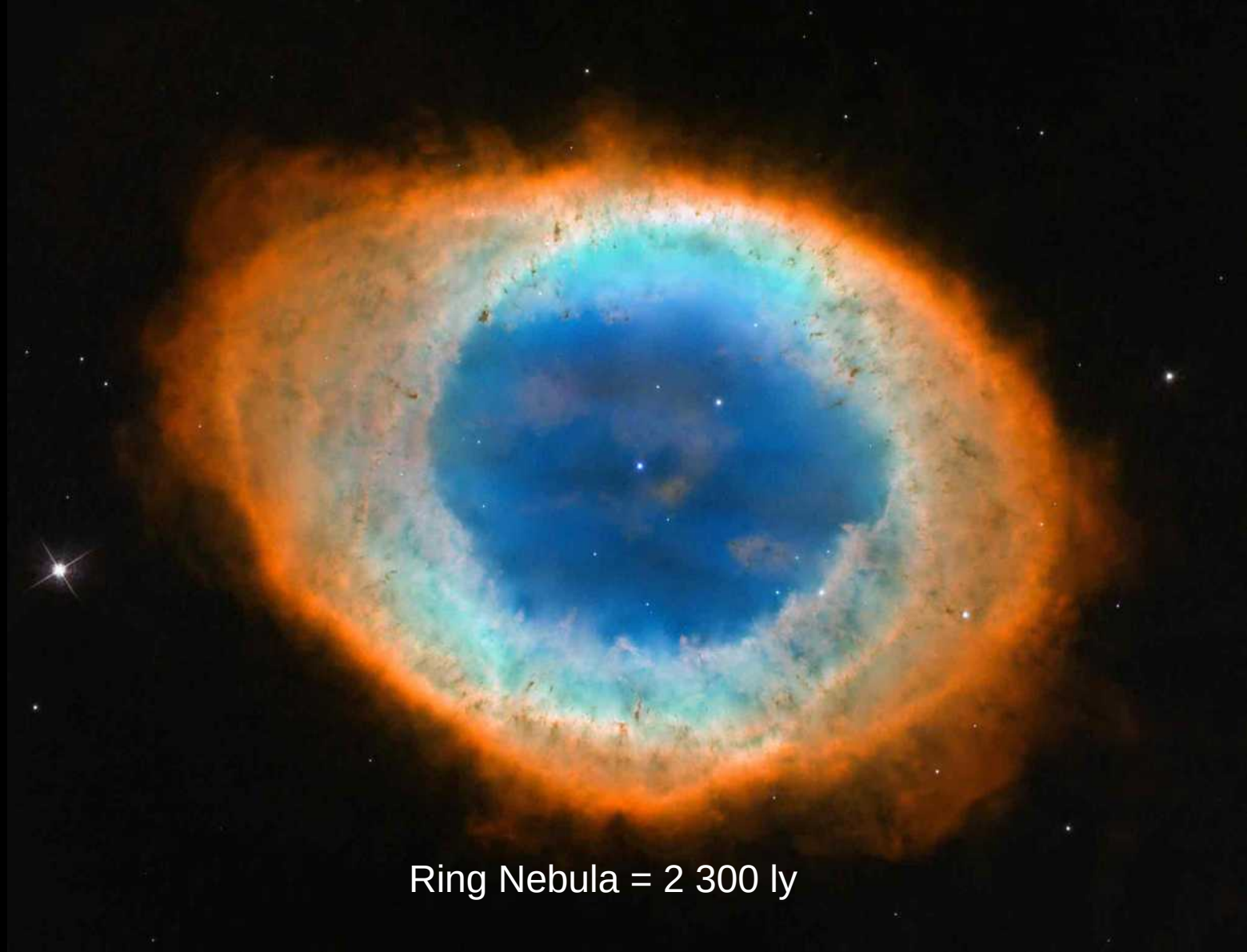

Horsehead Nebula = 1 500 ly


Horsehead Nebula = 1 500 ly

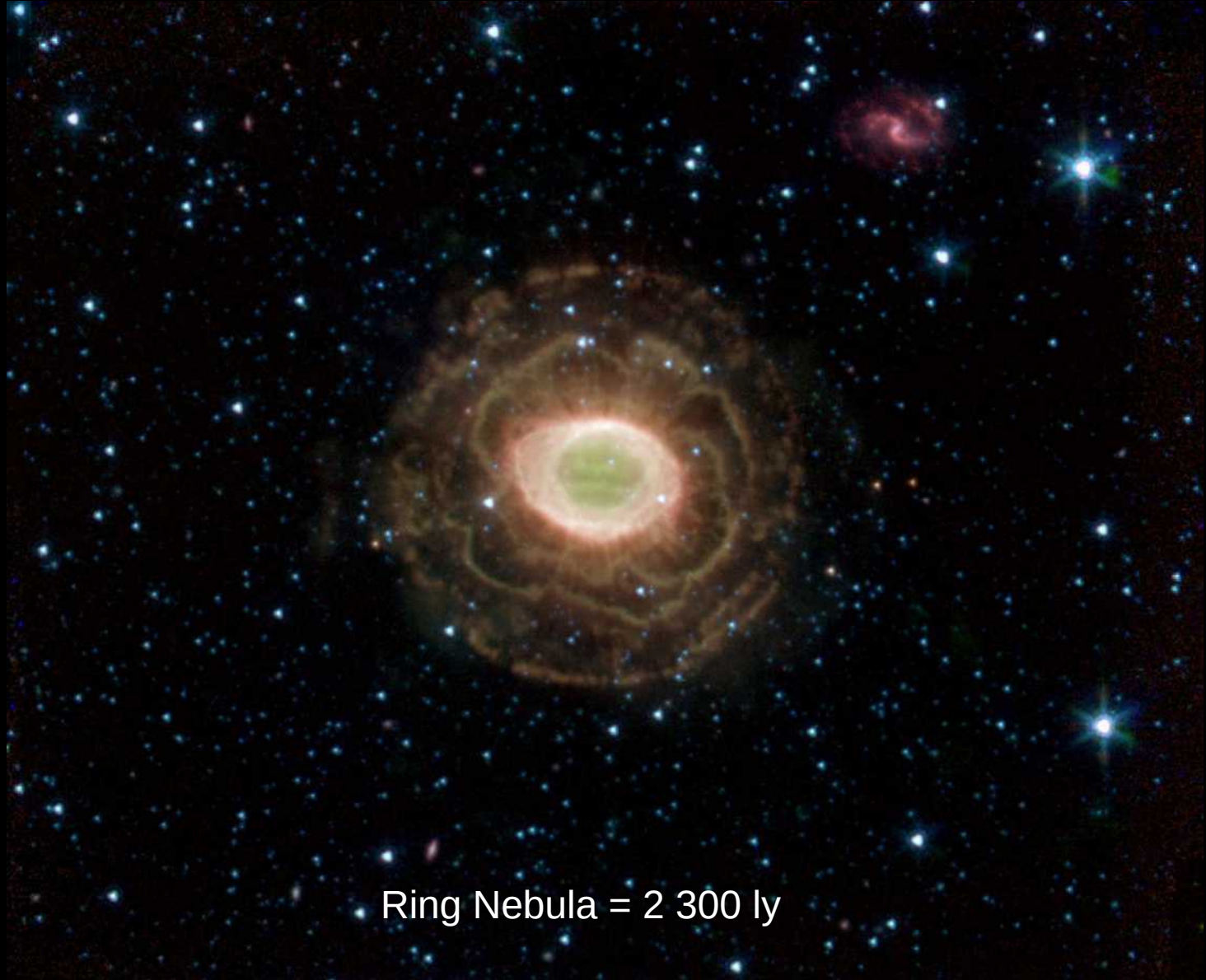

Sh2-106 Nebula = 2 000 ly



Twin Jet Nebula = 2 100 ly



Ring Nebula = 2 300 ly


Ring Nebula = 2 300 ly

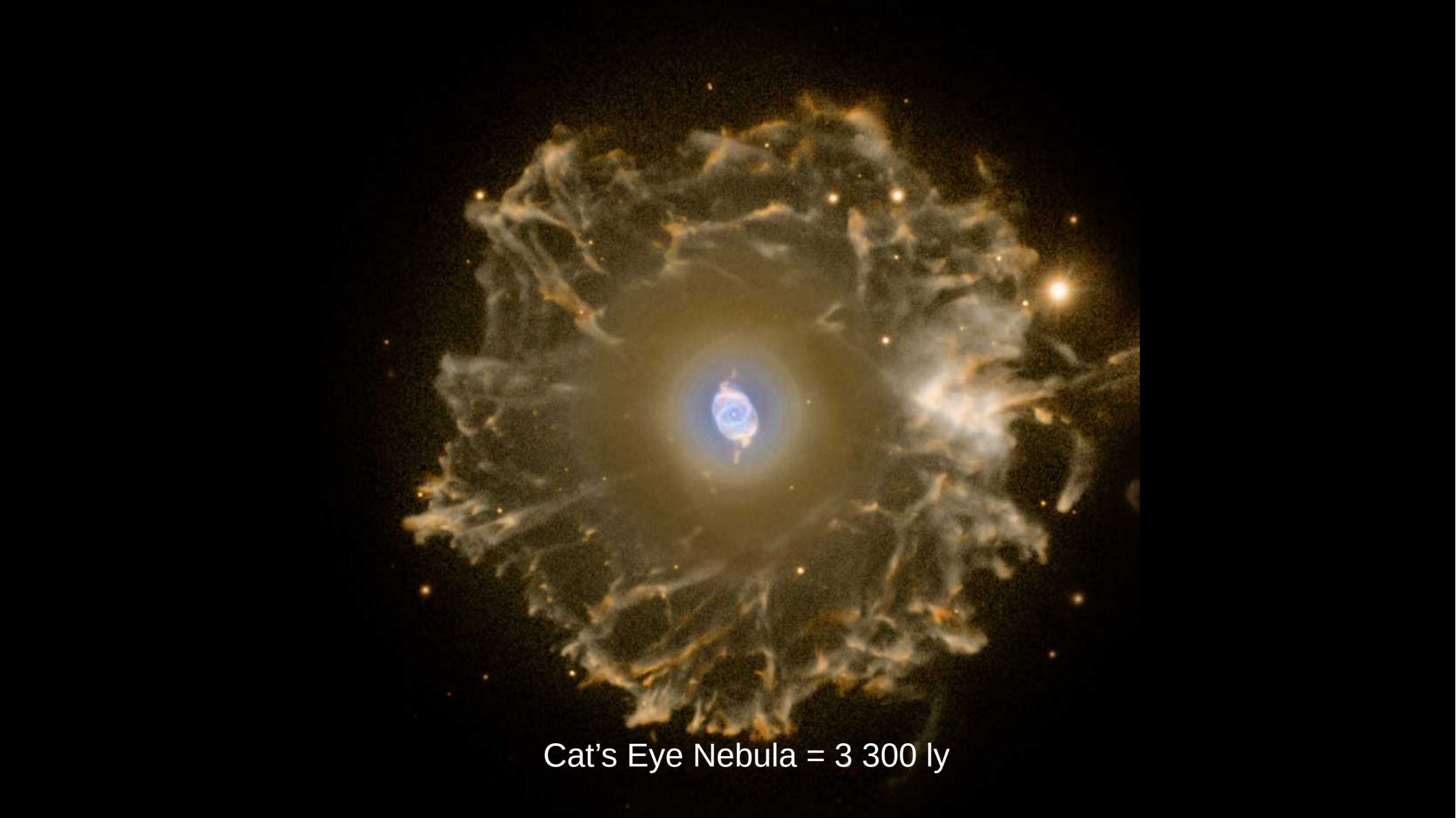

NGC 2264 Nebula = 2 700 ly


Cone Nebula = 2 700 ly

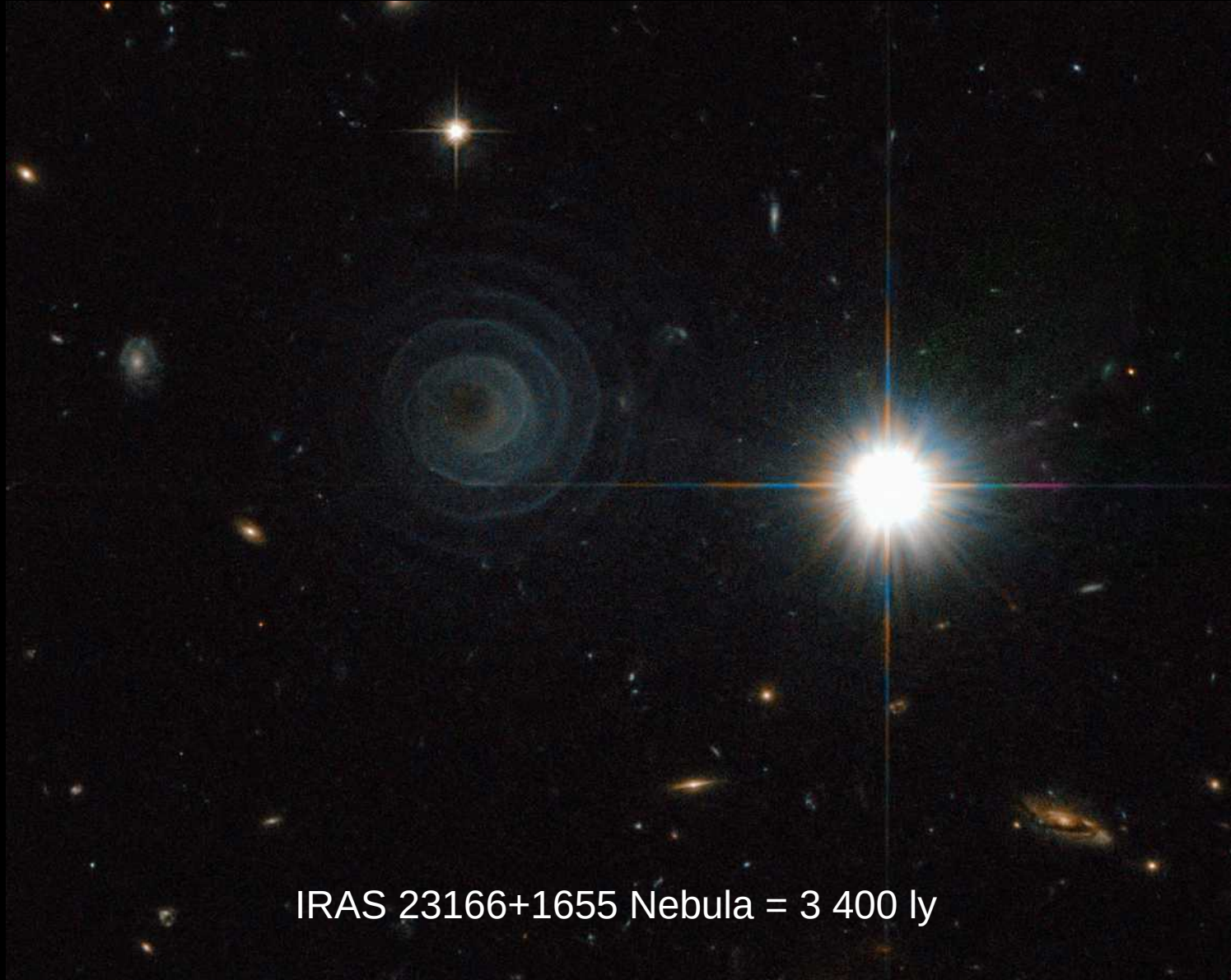
Eskimo Nebula = 2 870 ly

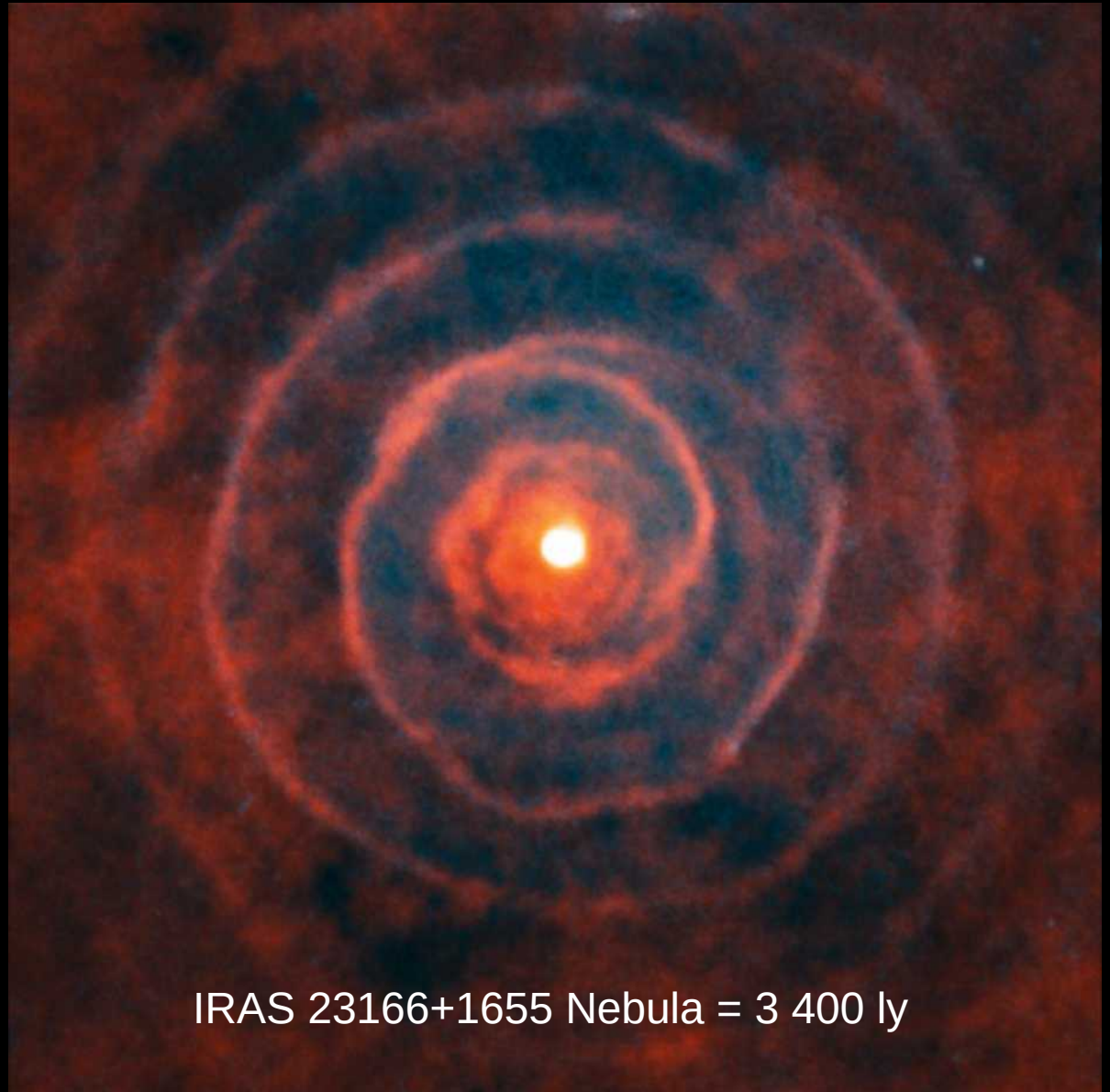

Sh2-71 Nebula = 3 200 ly

Cat’s Eye Nebula = 3 300 ly

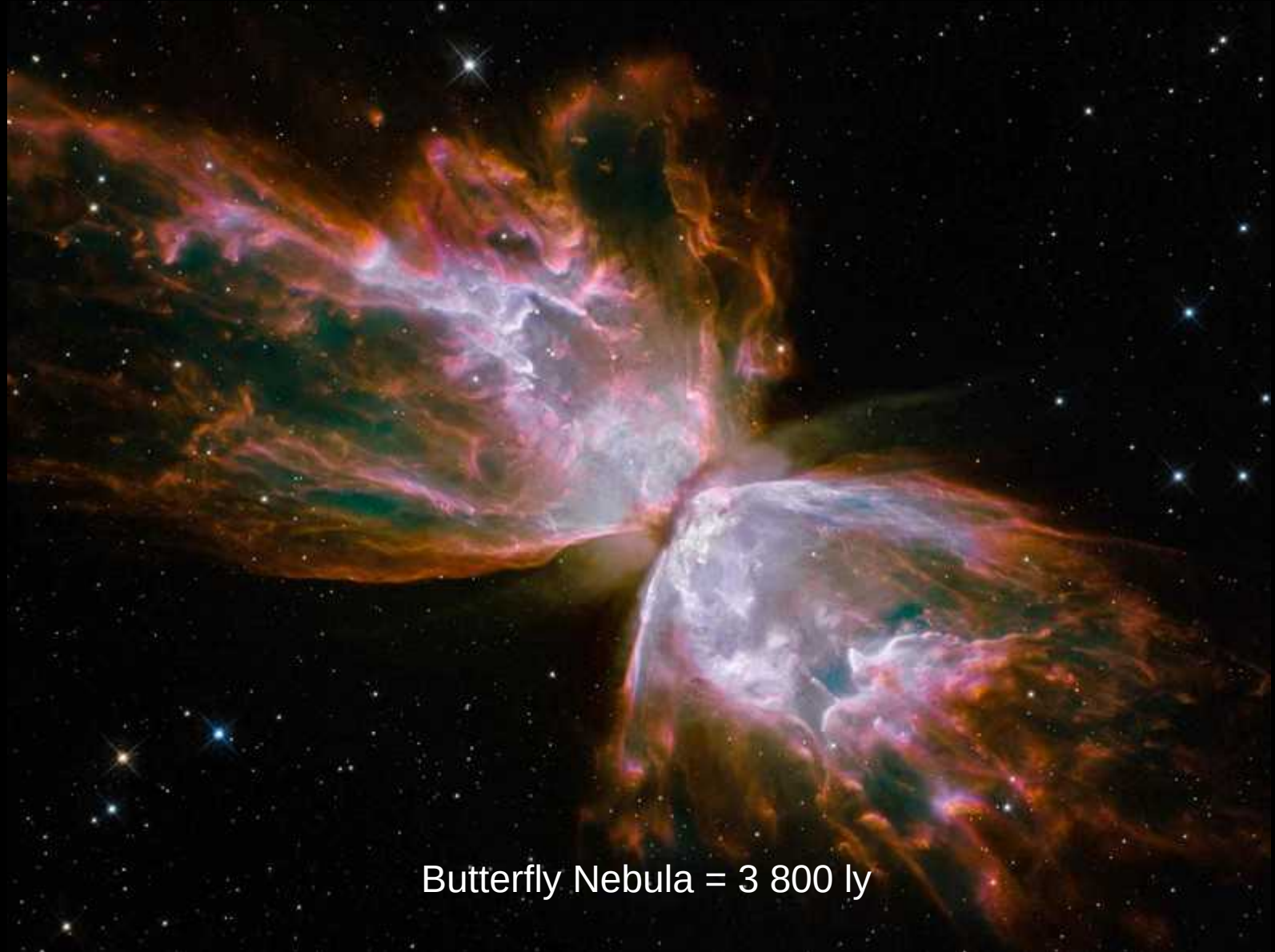


Cat’s Eye Nebula = 3 300 ly


IRAS 23166+1655 Nebula = 3 400 ly

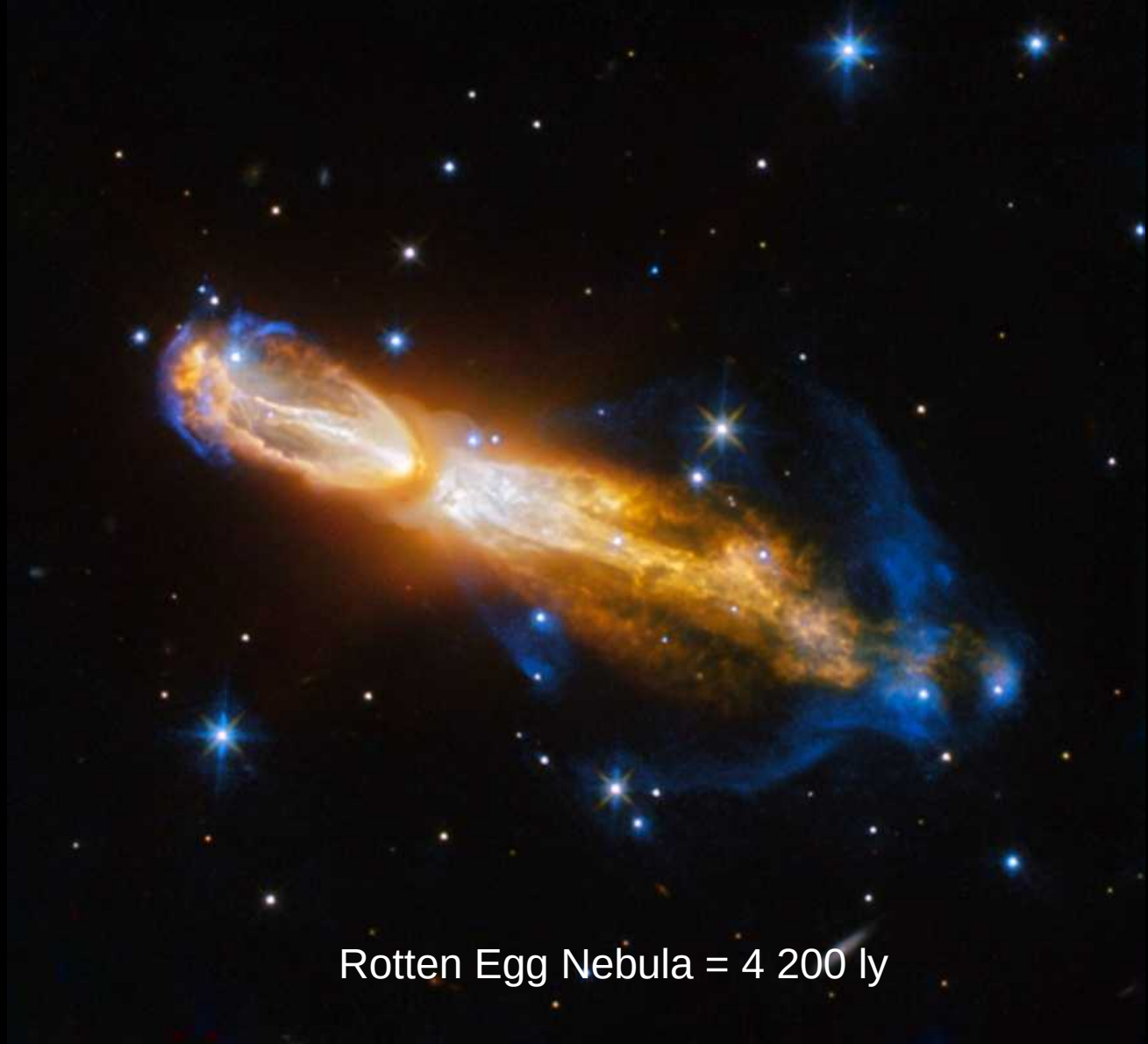


IRAS 23166+1655 Nebula = 3 400 ly



Butterfly Nebula = 3 800 ly


Lagoon Nebula = 4 100 ly

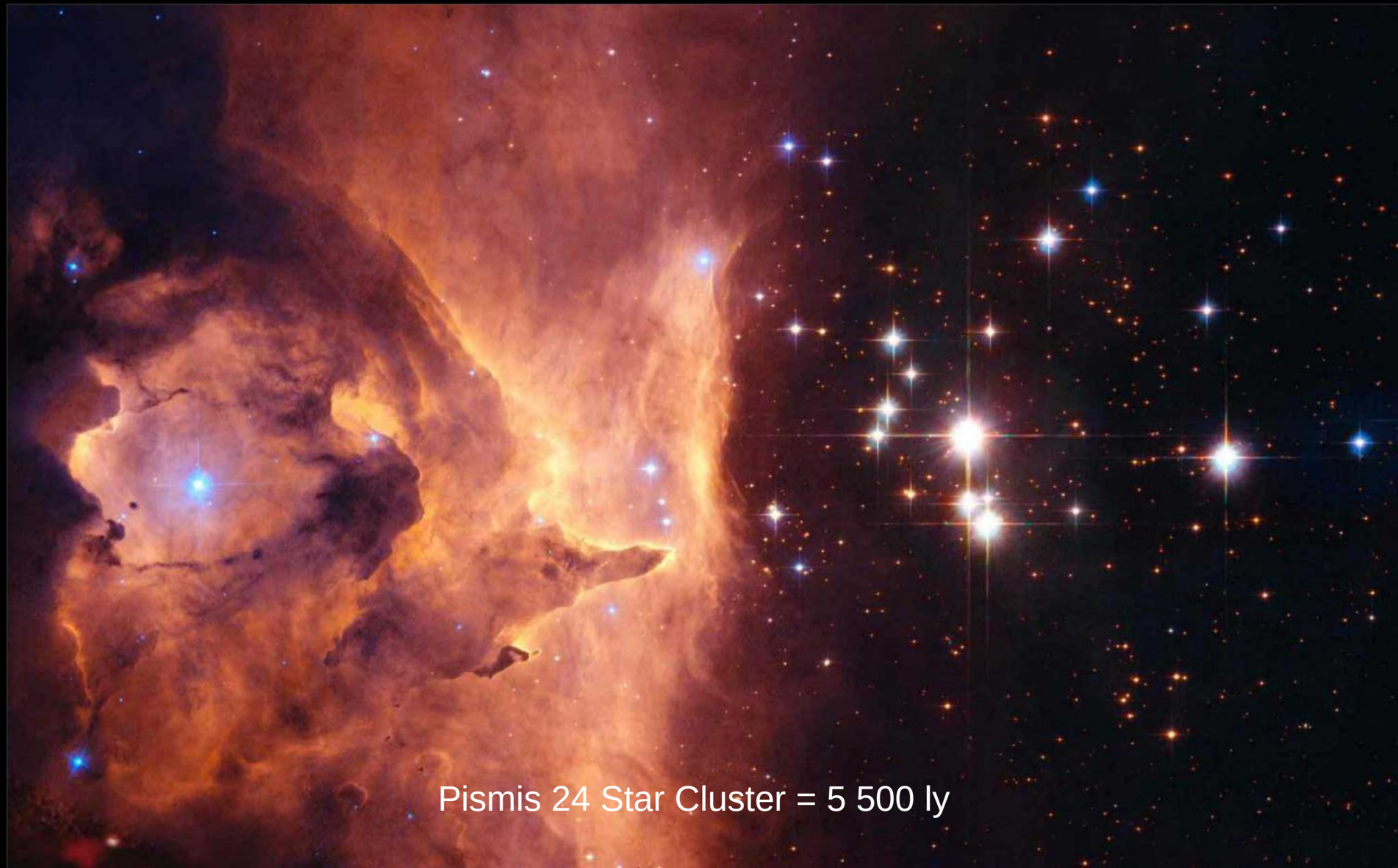


Rotten Egg Nebula = 4 200 ly

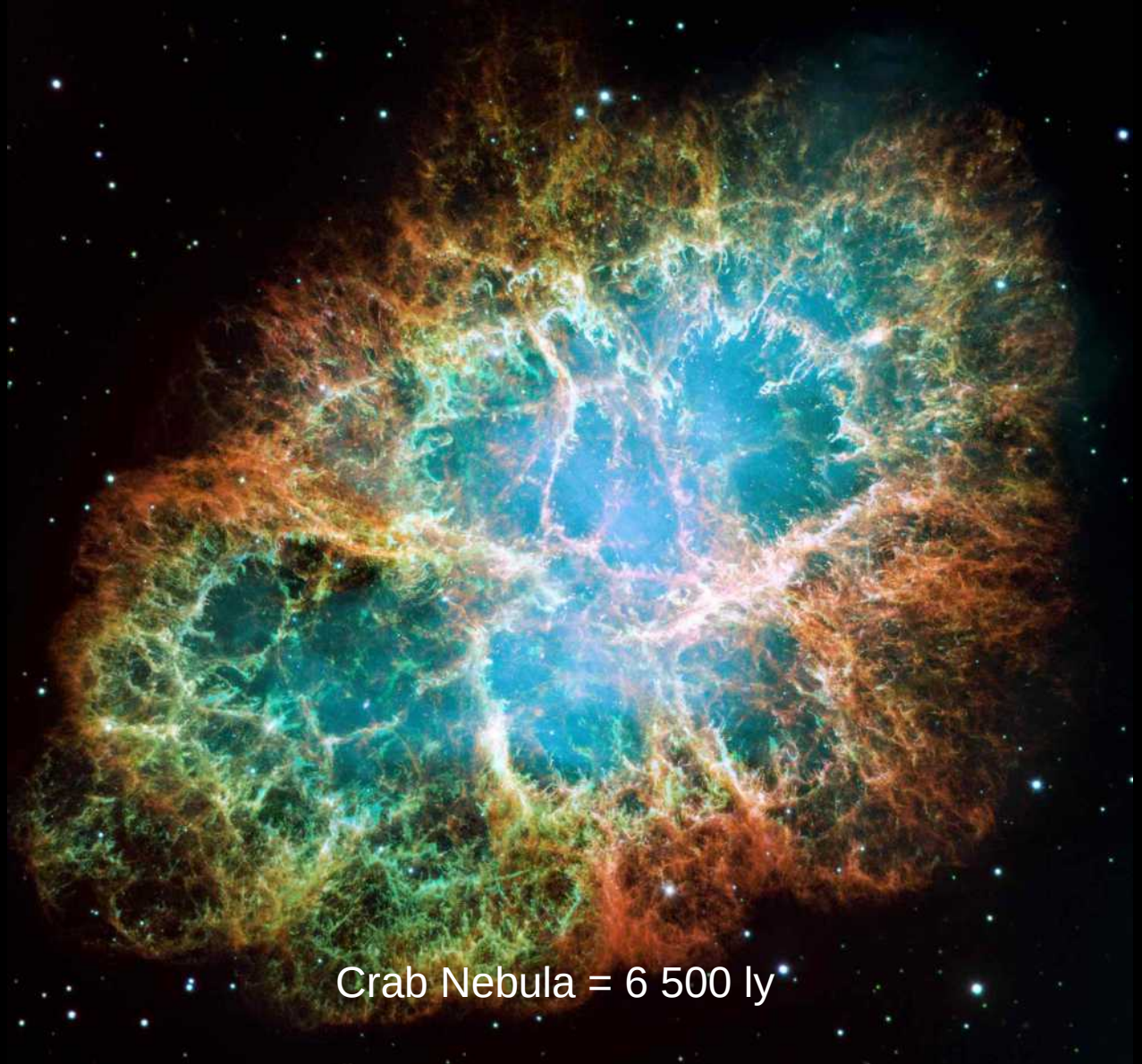

Trifid Nebula = 5 200 ly

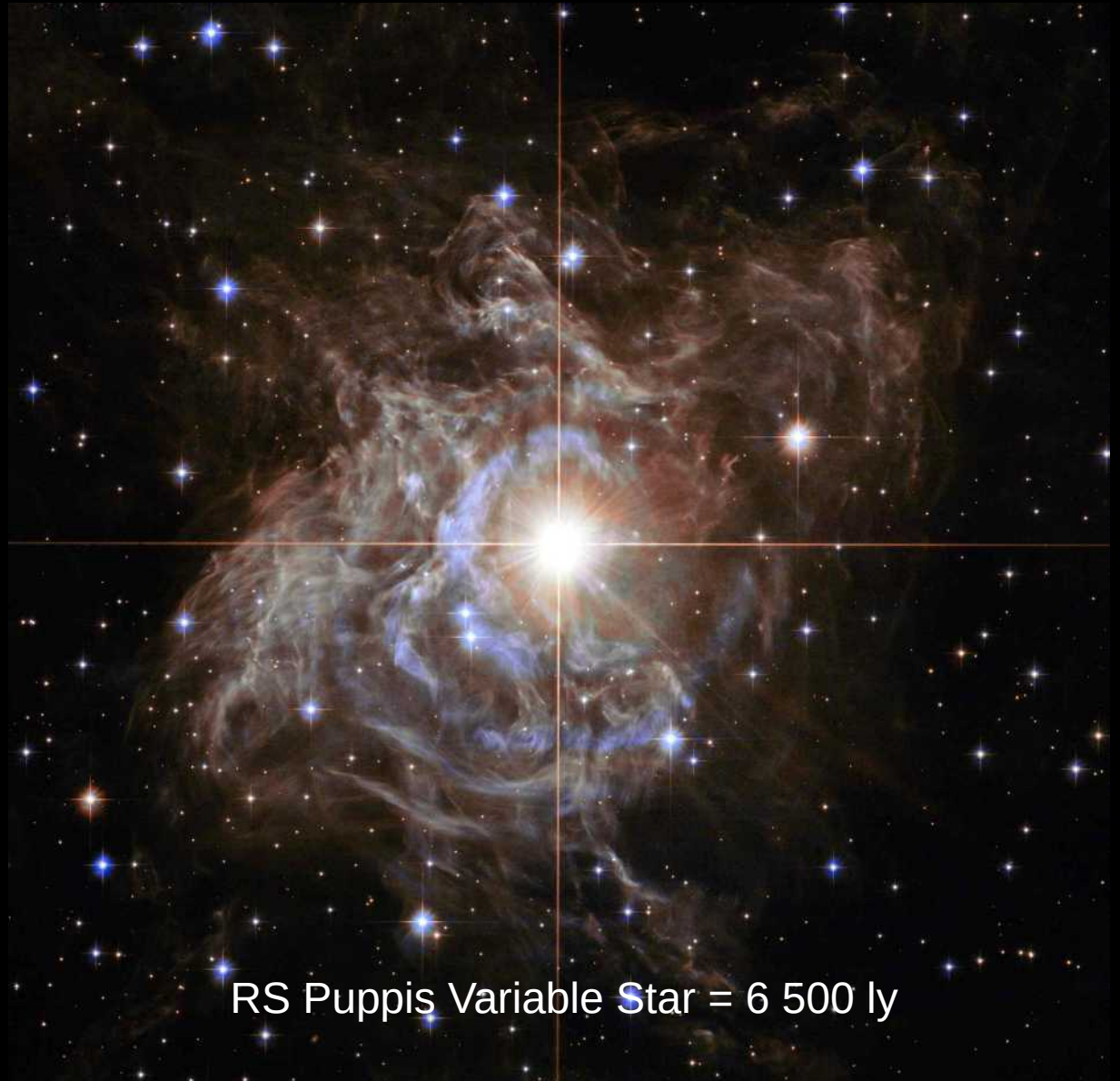

Monkey Head Nebula = 5 200 ly


Lobster Nebula = 5 500 ly


Pismis 24 Star Cluster = 5 500 ly

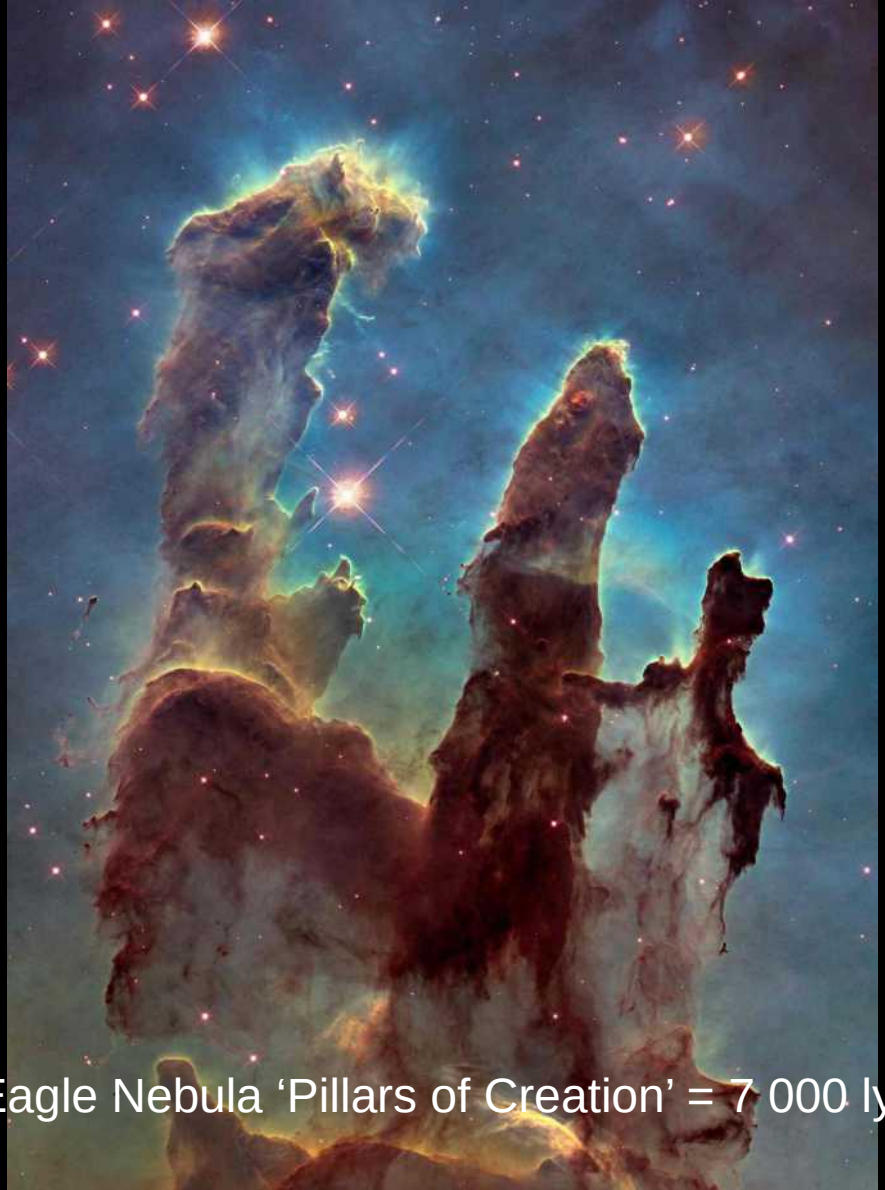

Omega Nebula = 6 000 ly


Crab Nebula = 6 500 ly



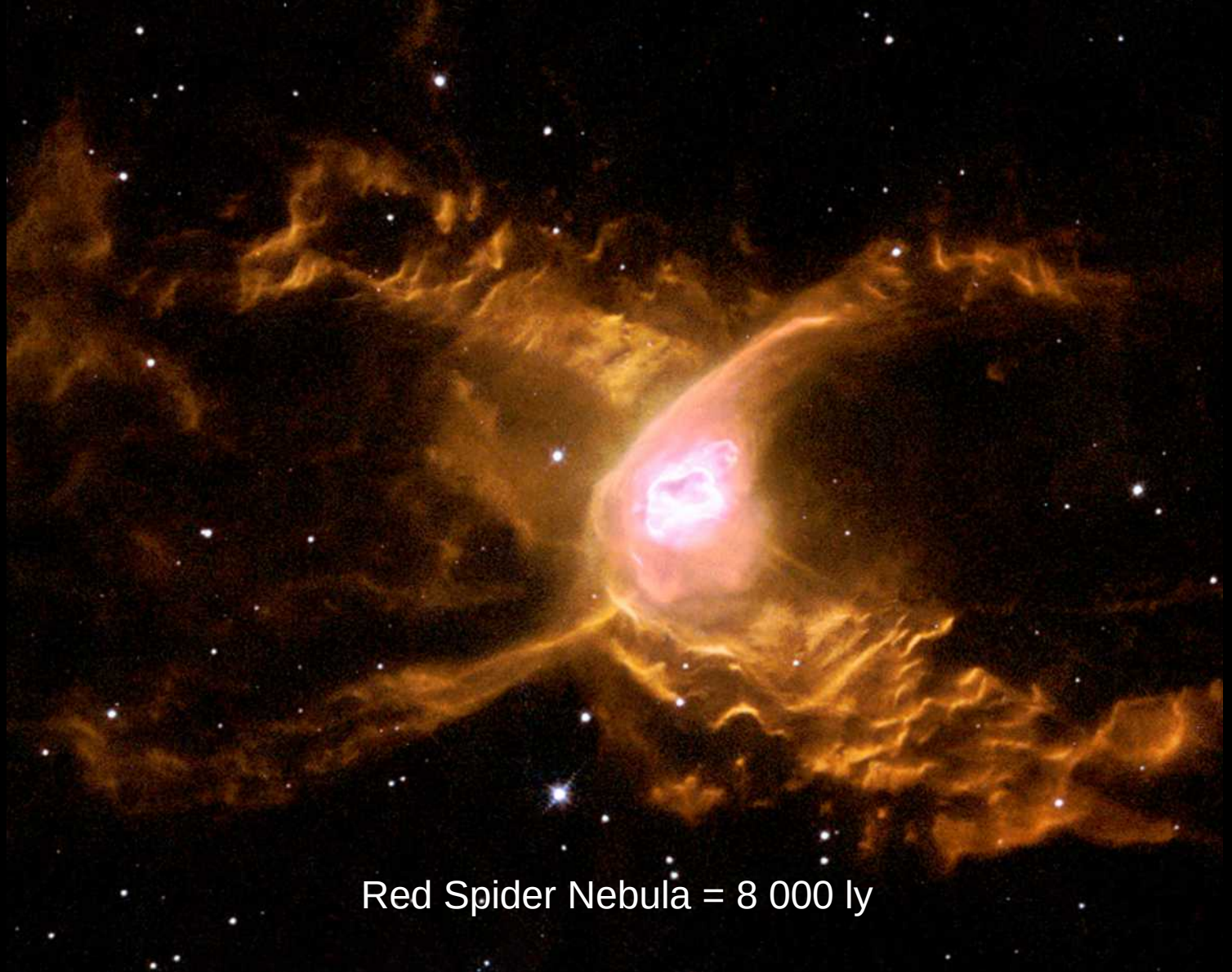
RS Puppis Variable Star = 6 500 ly


Eagle Nebula = 7 000 ly

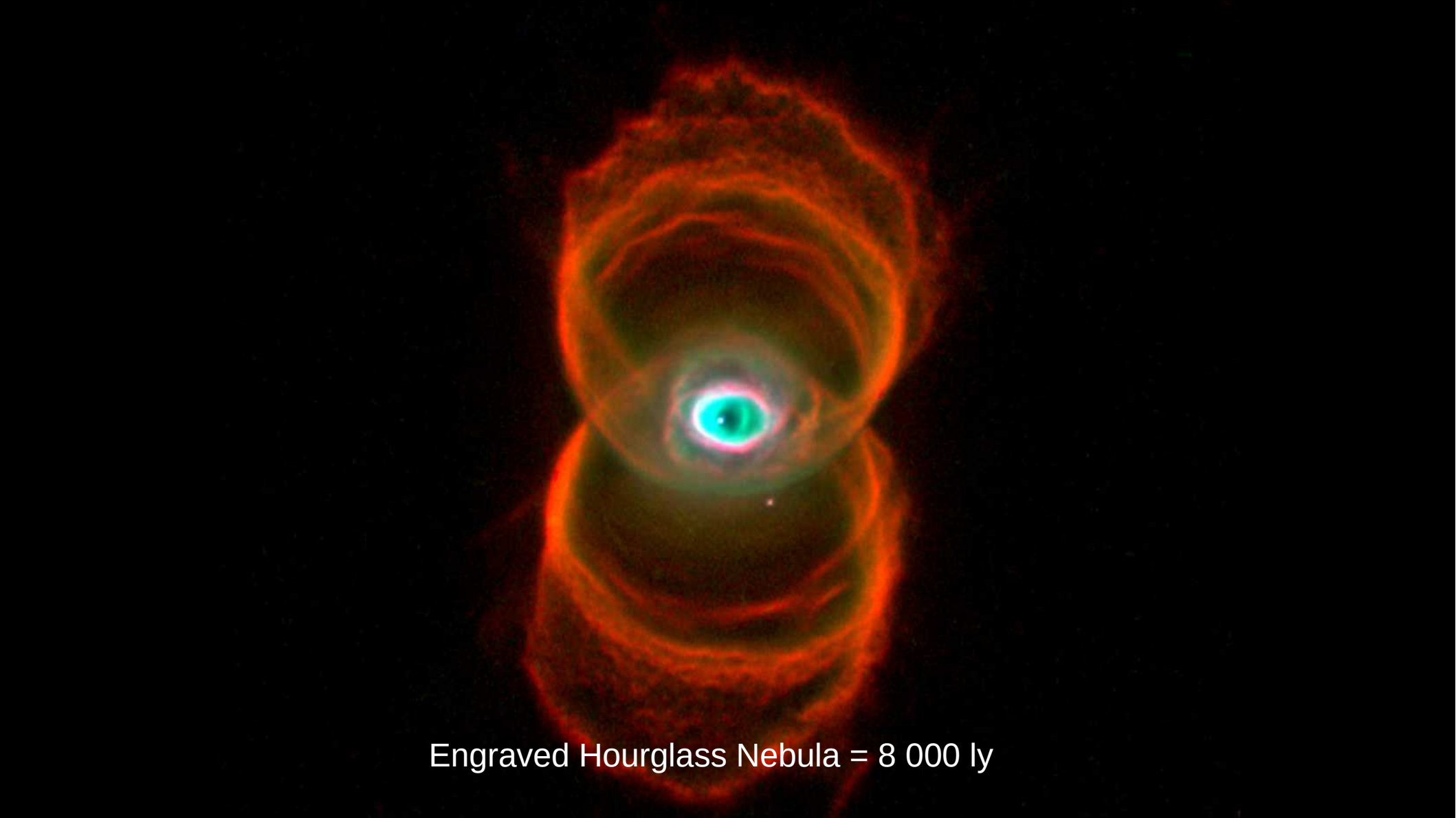


Eagle Nebula ‘Pillars of Creation’ = 7 000 ly

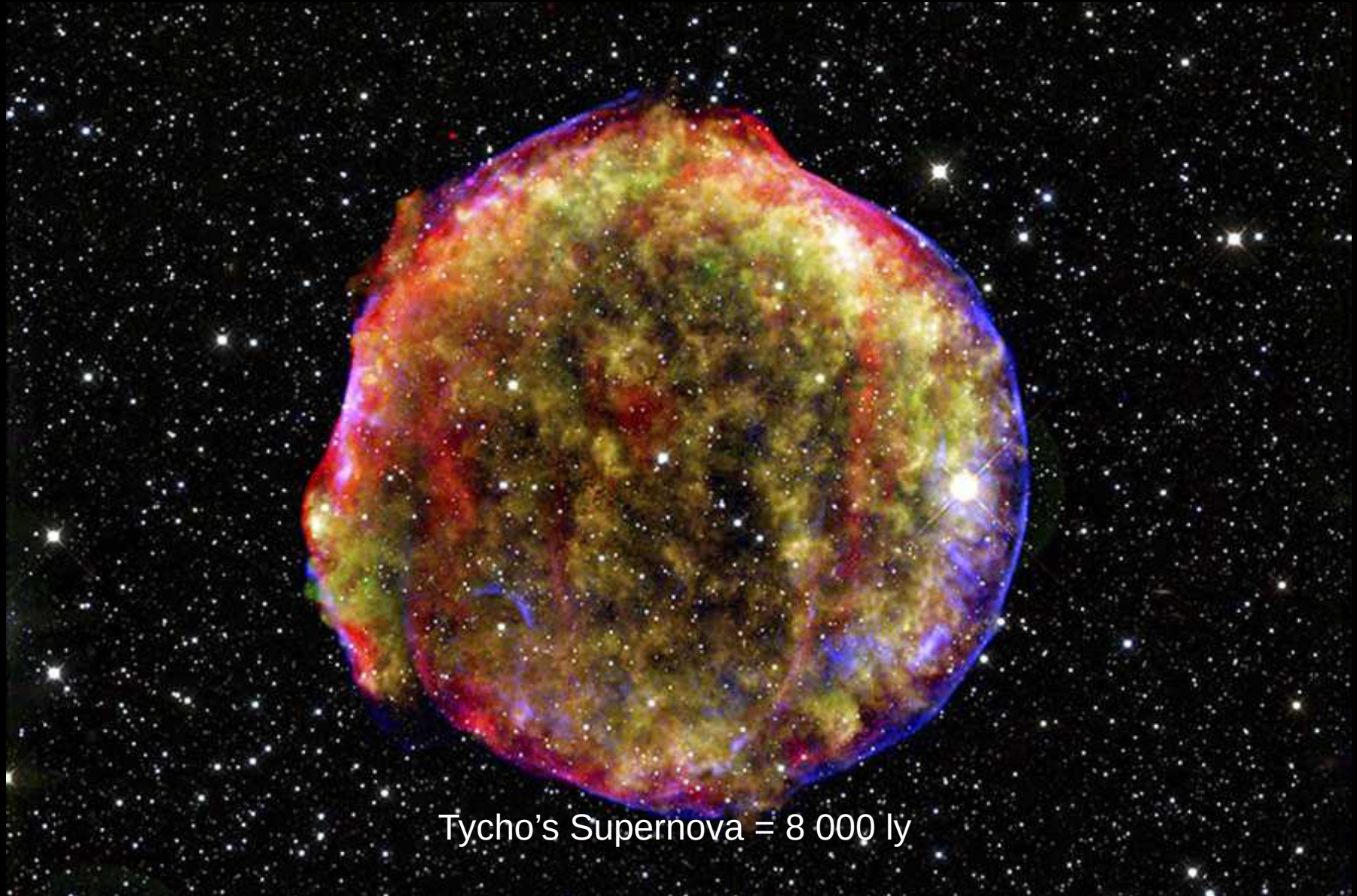
SN1006 Supernova = 7 200 ly



Red Spider Nebula = 8 000 ly

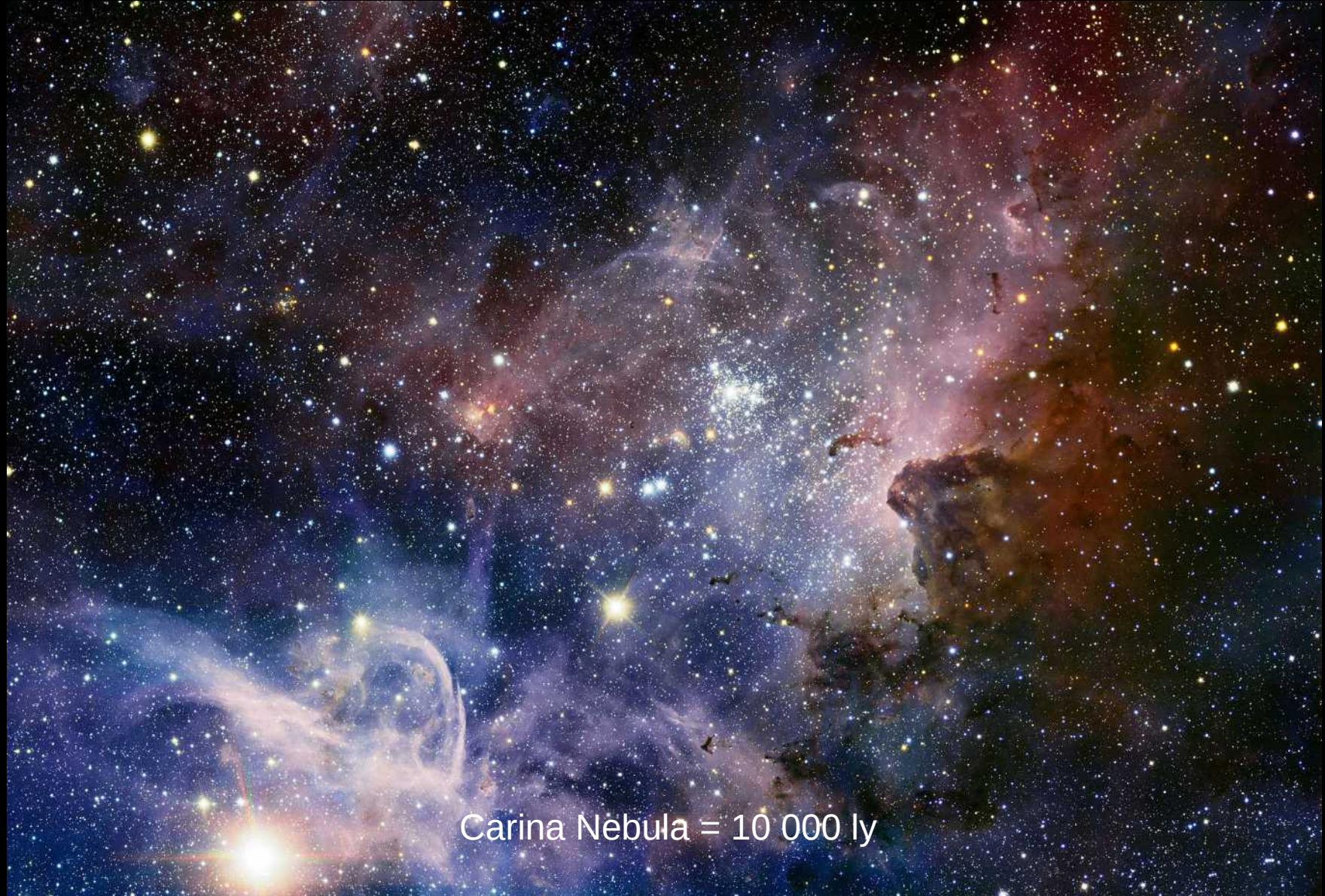


Engraved Hourglass Nebula = 8 000 ly



Tycho’s Supernova = 8 000 ly

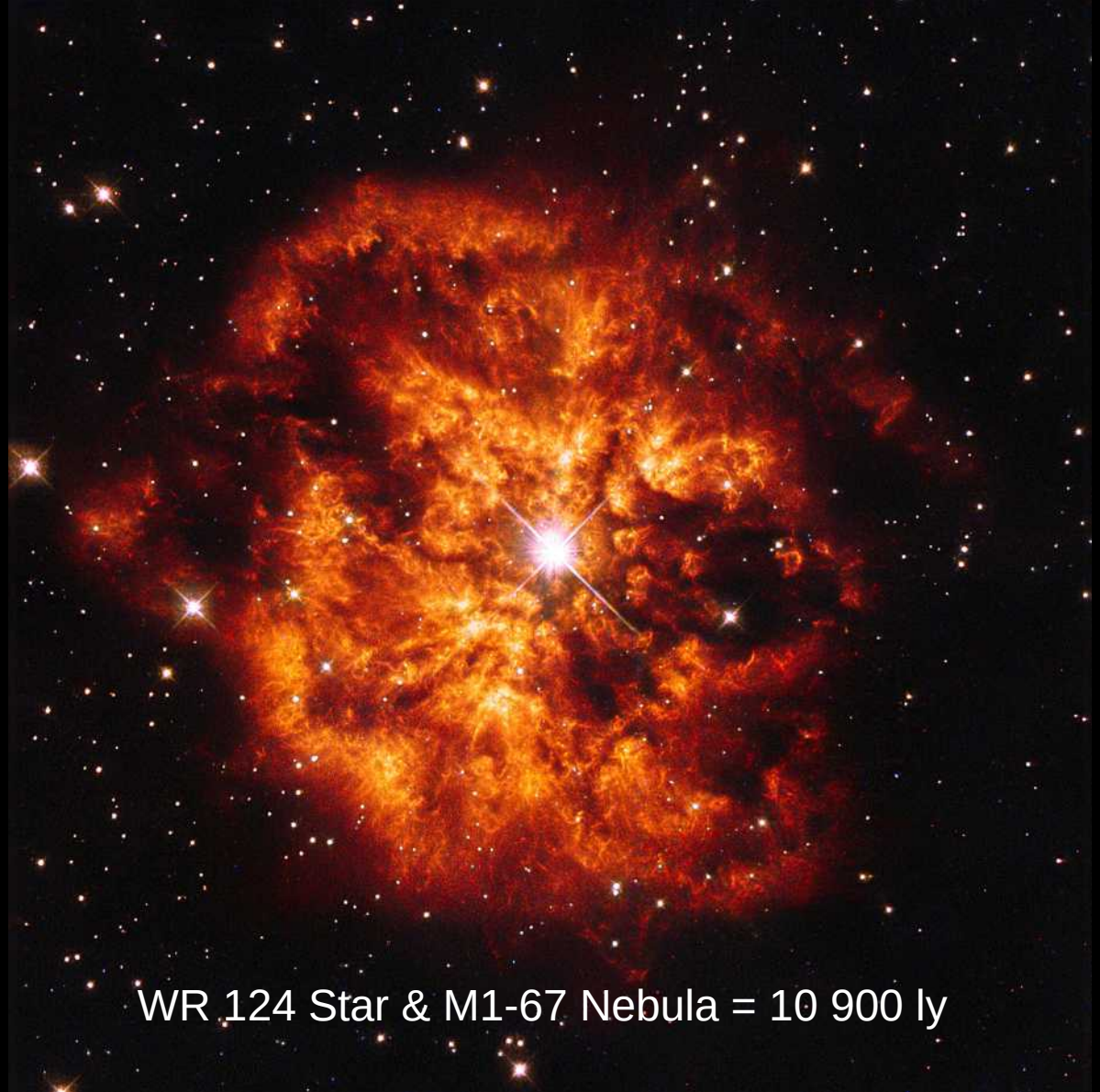

Pacman Nebula = 9 500 ly


Carina Nebula = 10 000 ly


Carina Nebula = 10 000 ly

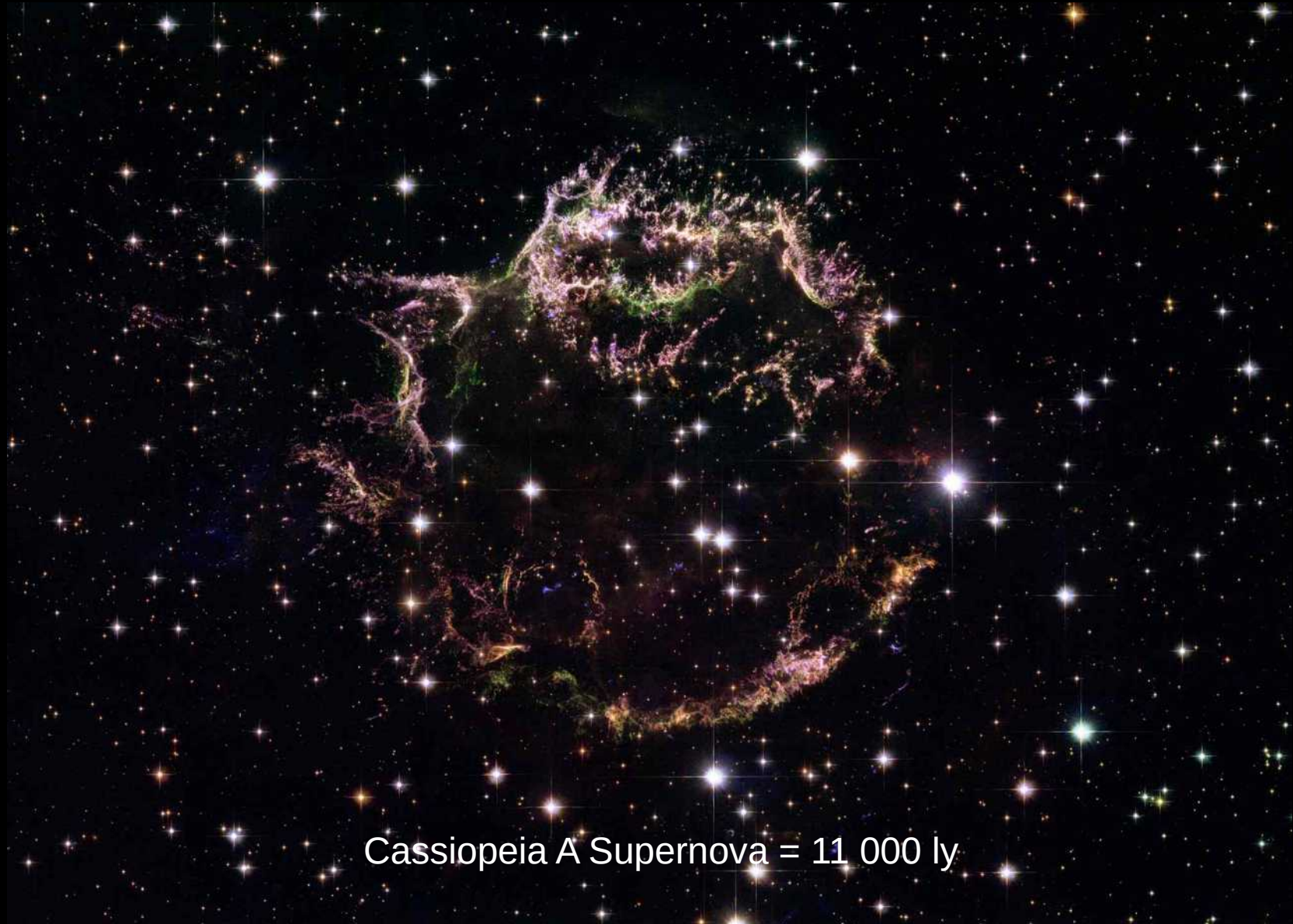

Carina Nebula ‘Mystic Mountain’ = 10 000 ly

Carina Nebula Homunculus Nebula = 10 000 ly

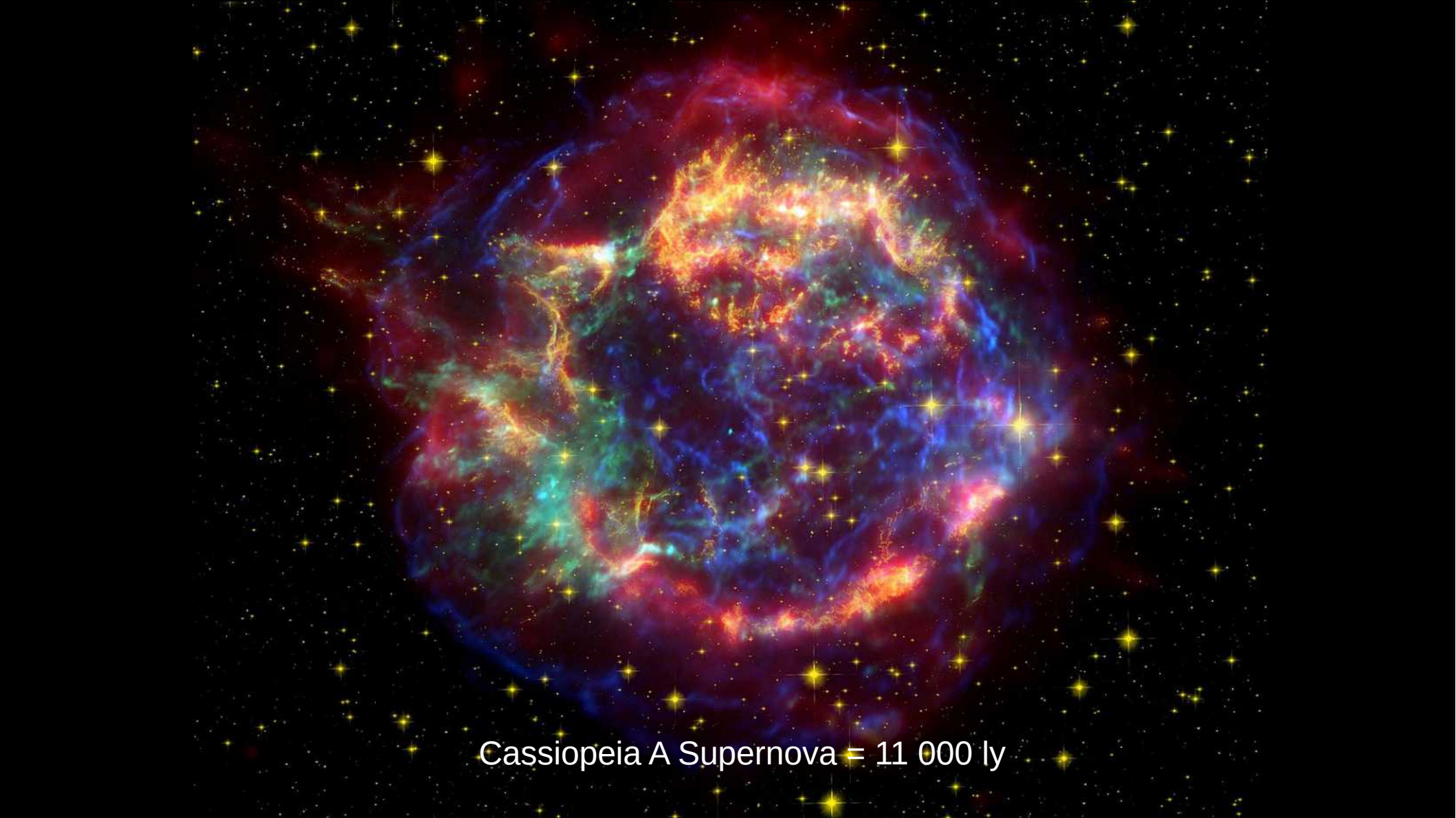


WR 124 Star & M1-67 Nebula = 10 900 ly

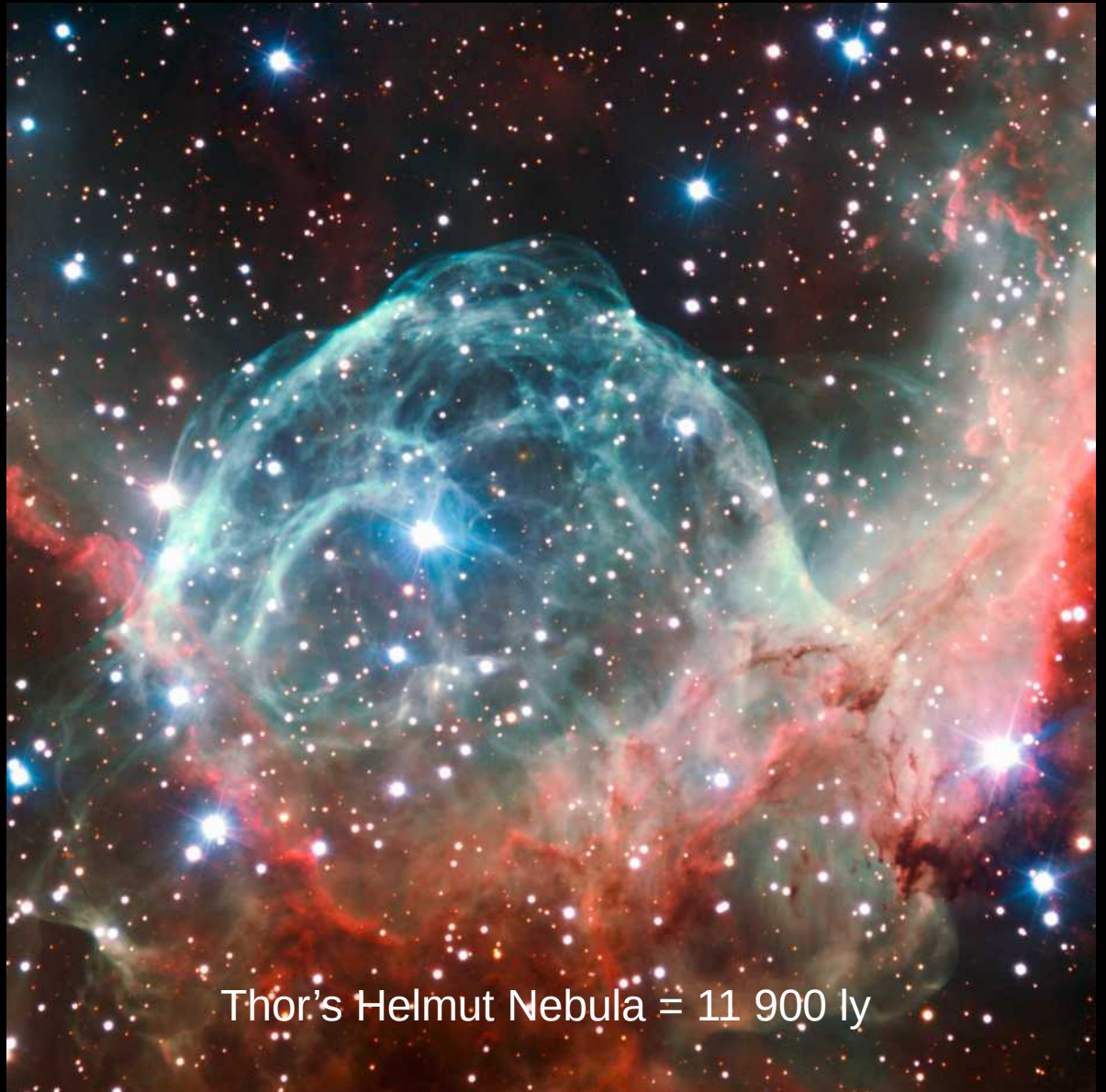

Bubble Nebula = 11 000 ly



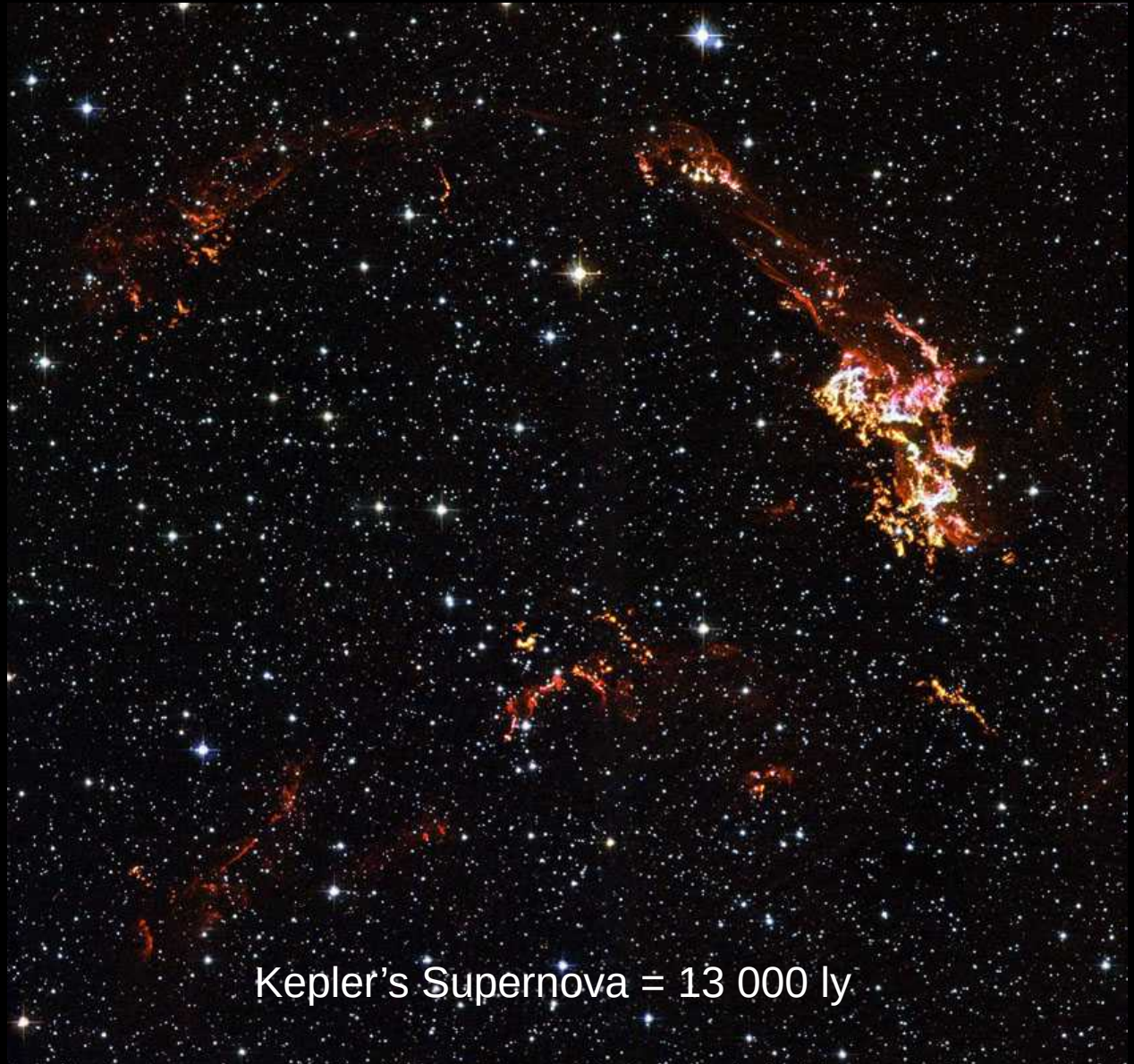
Cassiopeia A Supernova = 11 000 ly

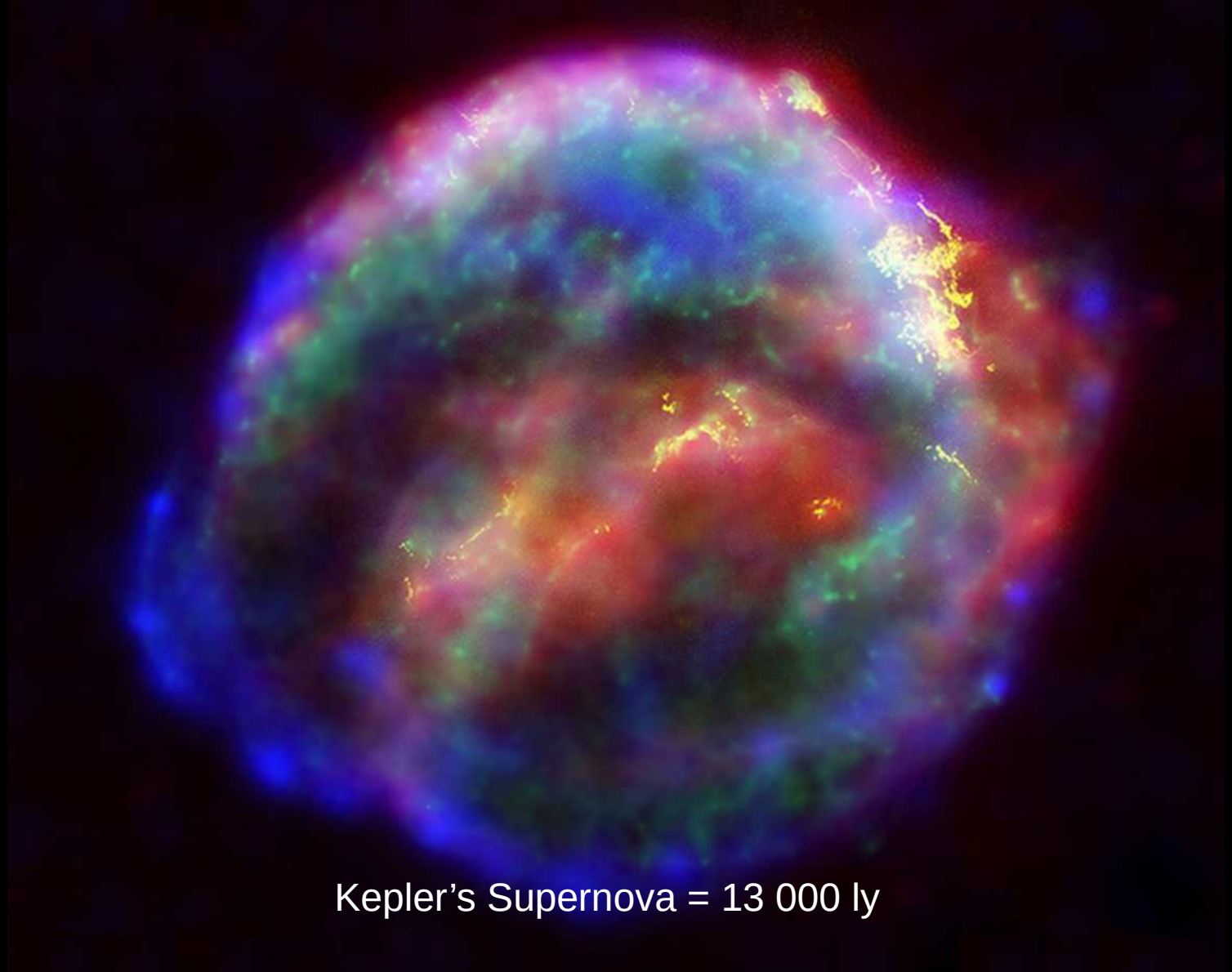


Cassiopeia A Supernova = 11 000 ly

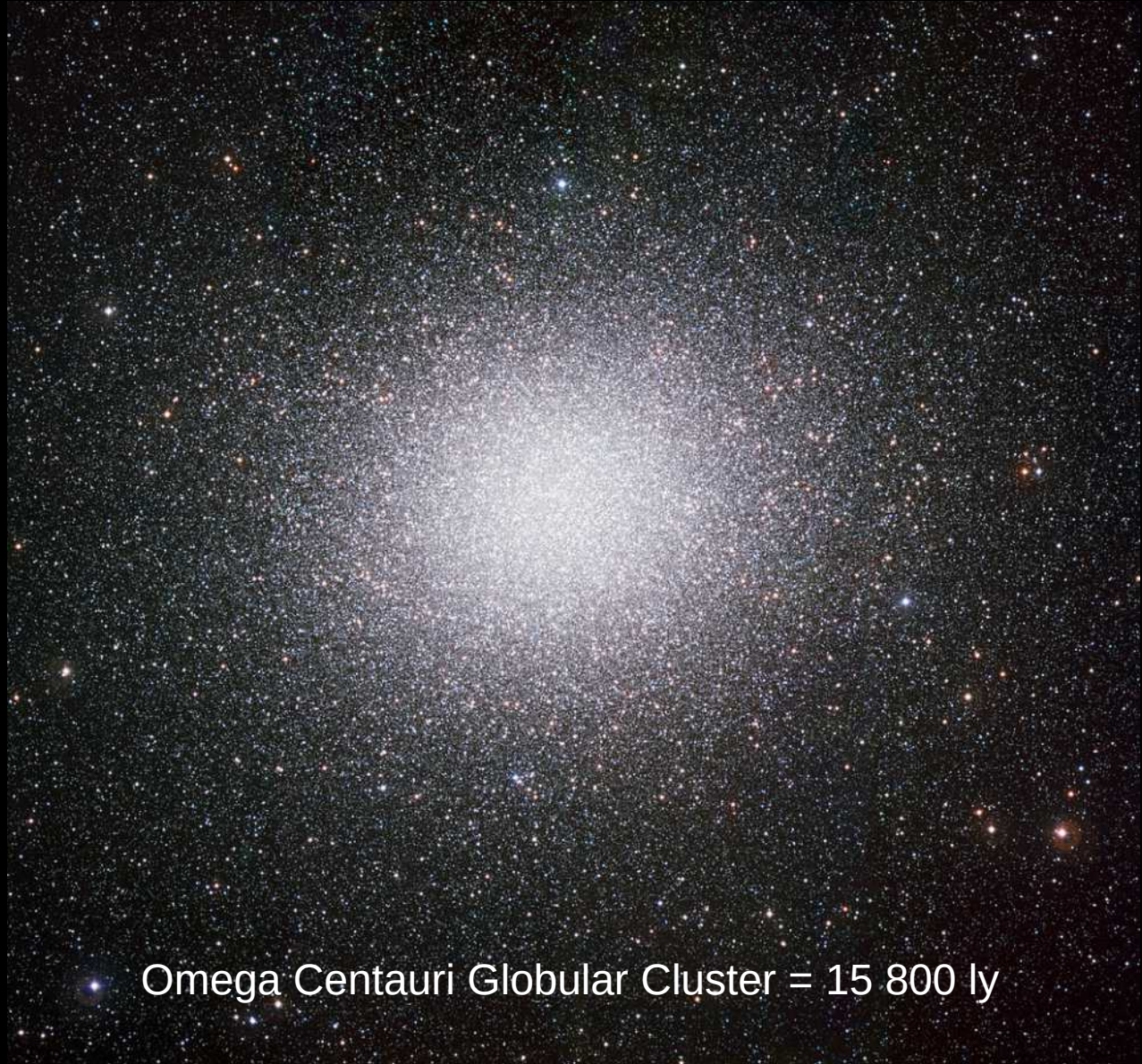

Thor’s Helmut Nebula = 11 900 ly

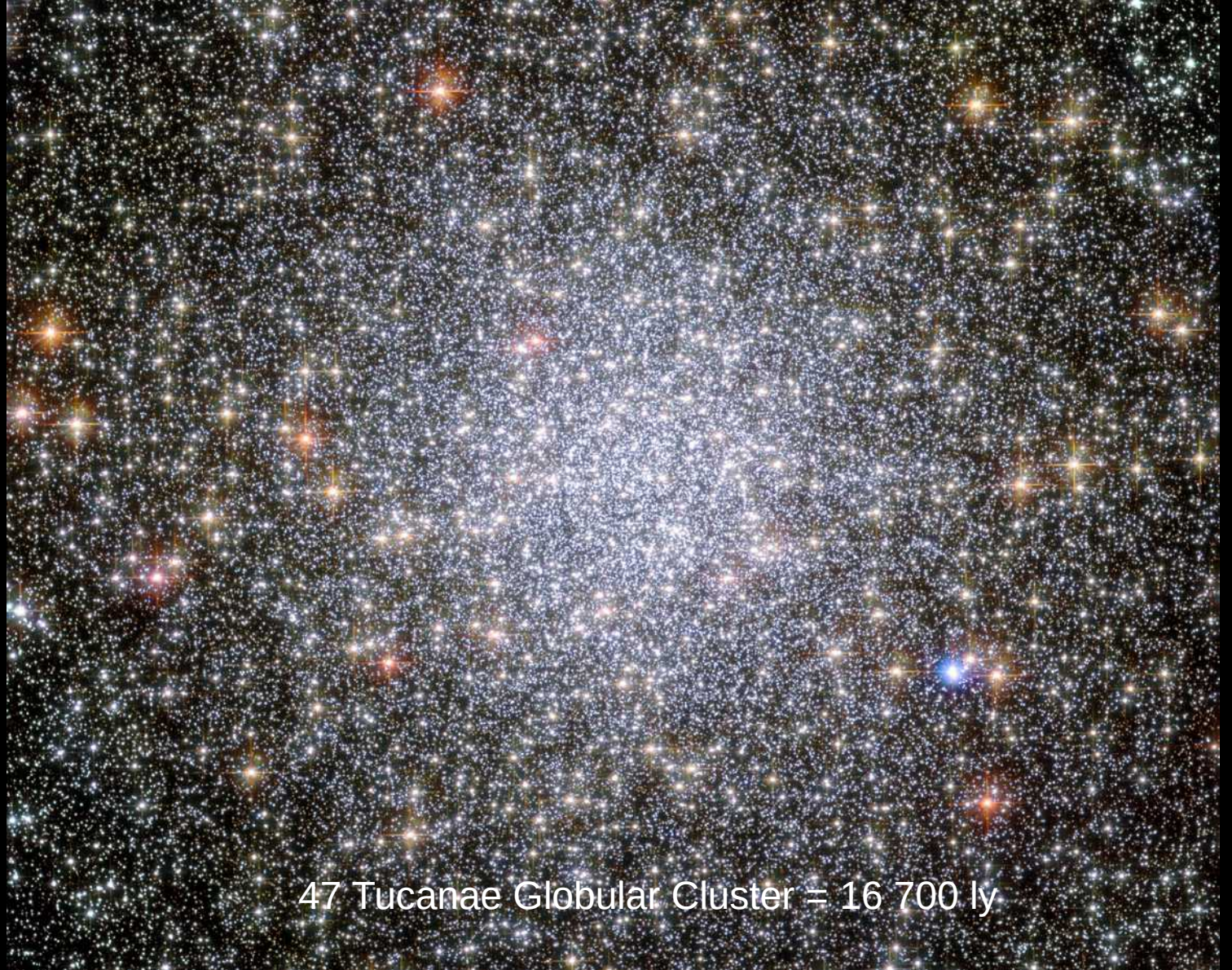

Westerlund 1 Star Cluster = 12 000 ly

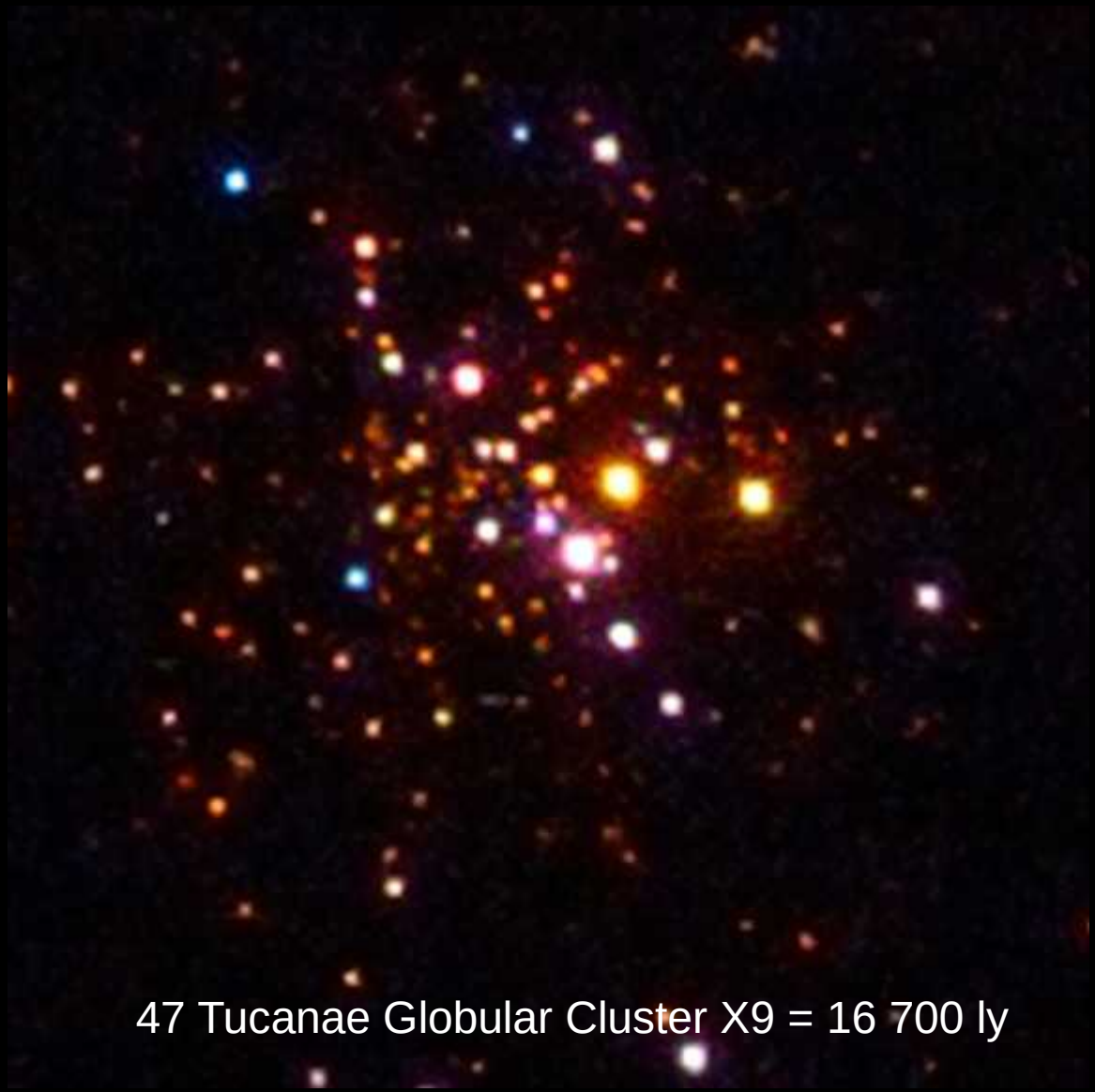

Kepler’s Supernova = 13 000 ly



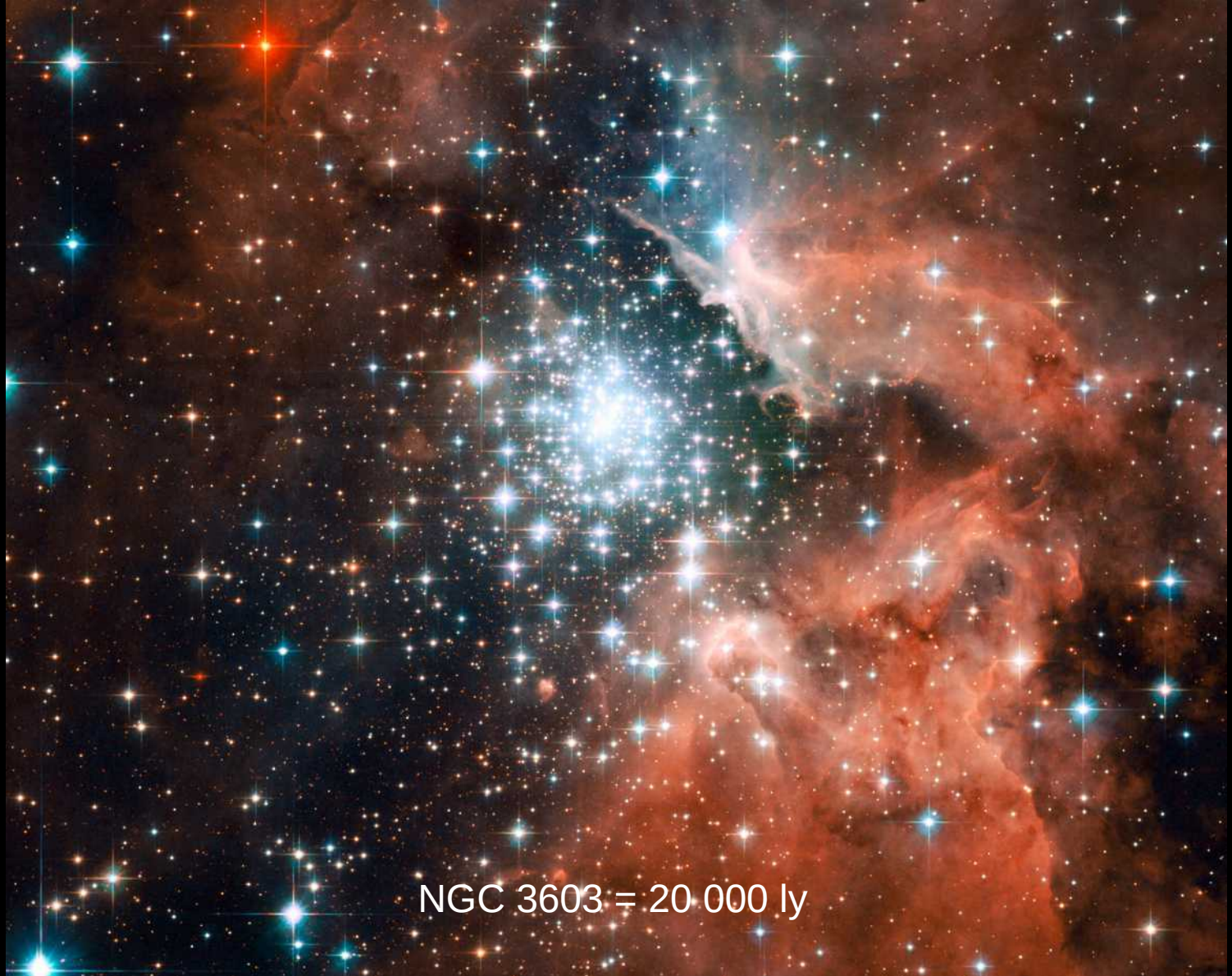
Kepler’s Supernova = 13 000 ly


Omega Centauri Globular Cluster = 15 800 ly


47 Tucanae Globular Cluster = 16 700 ly



47 Tucanae Globular Cluster X9 = 16 700 ly

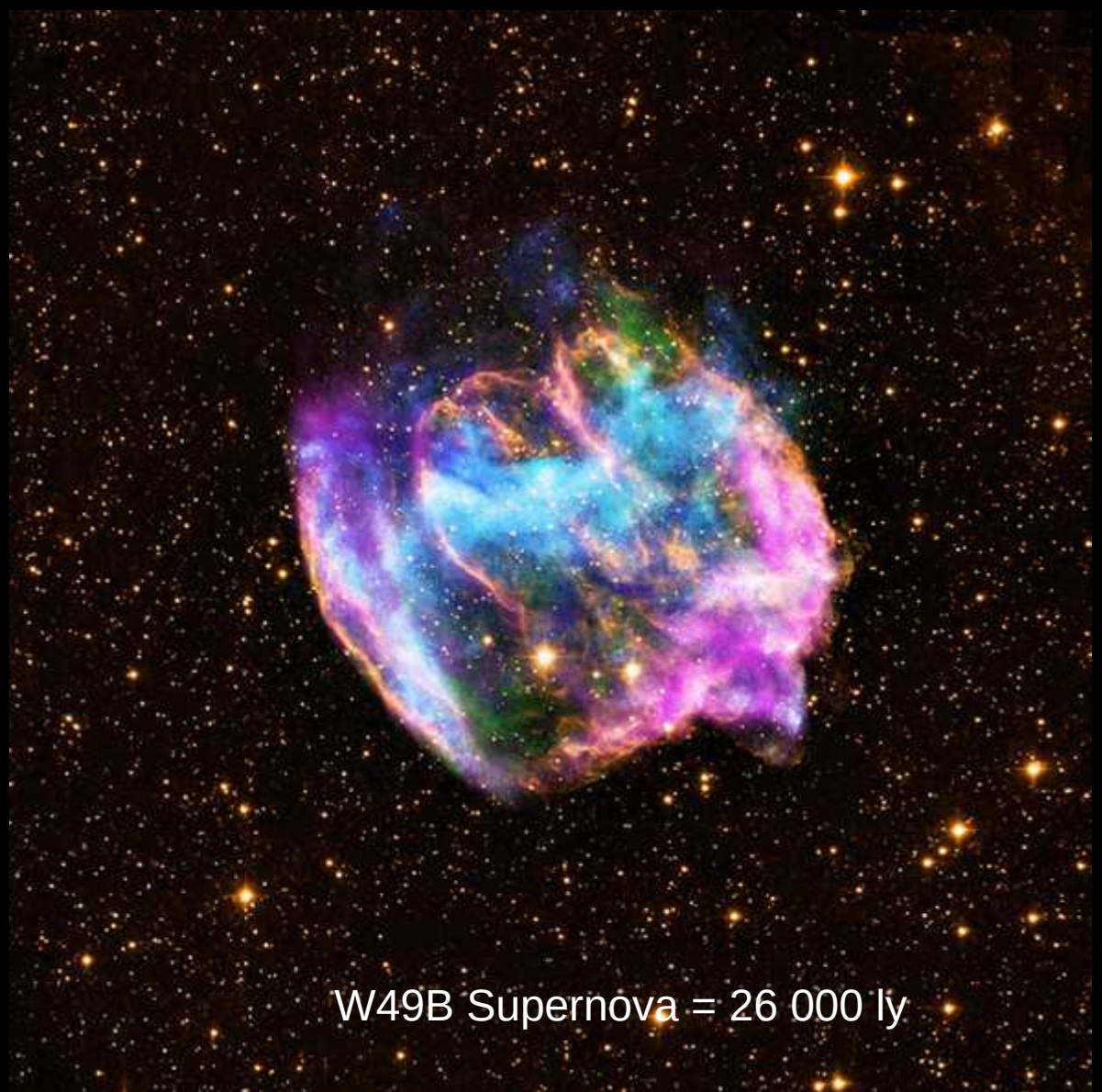

NGC 3603 = 20 000 ly

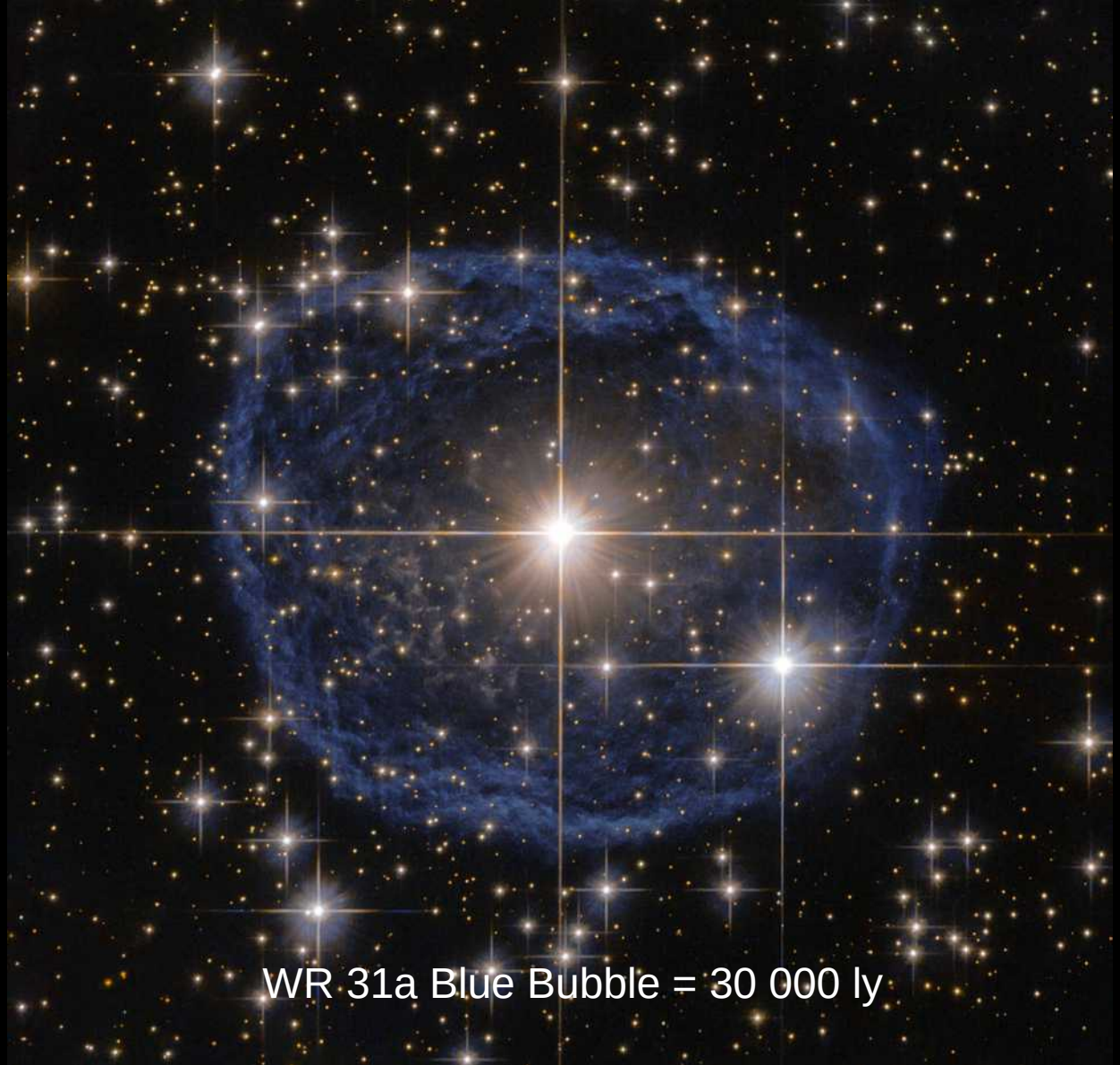
V838 Monocerotis Variable Star = 20 000 ly

V838 Monocerotis Variable Star = 20 000 ly

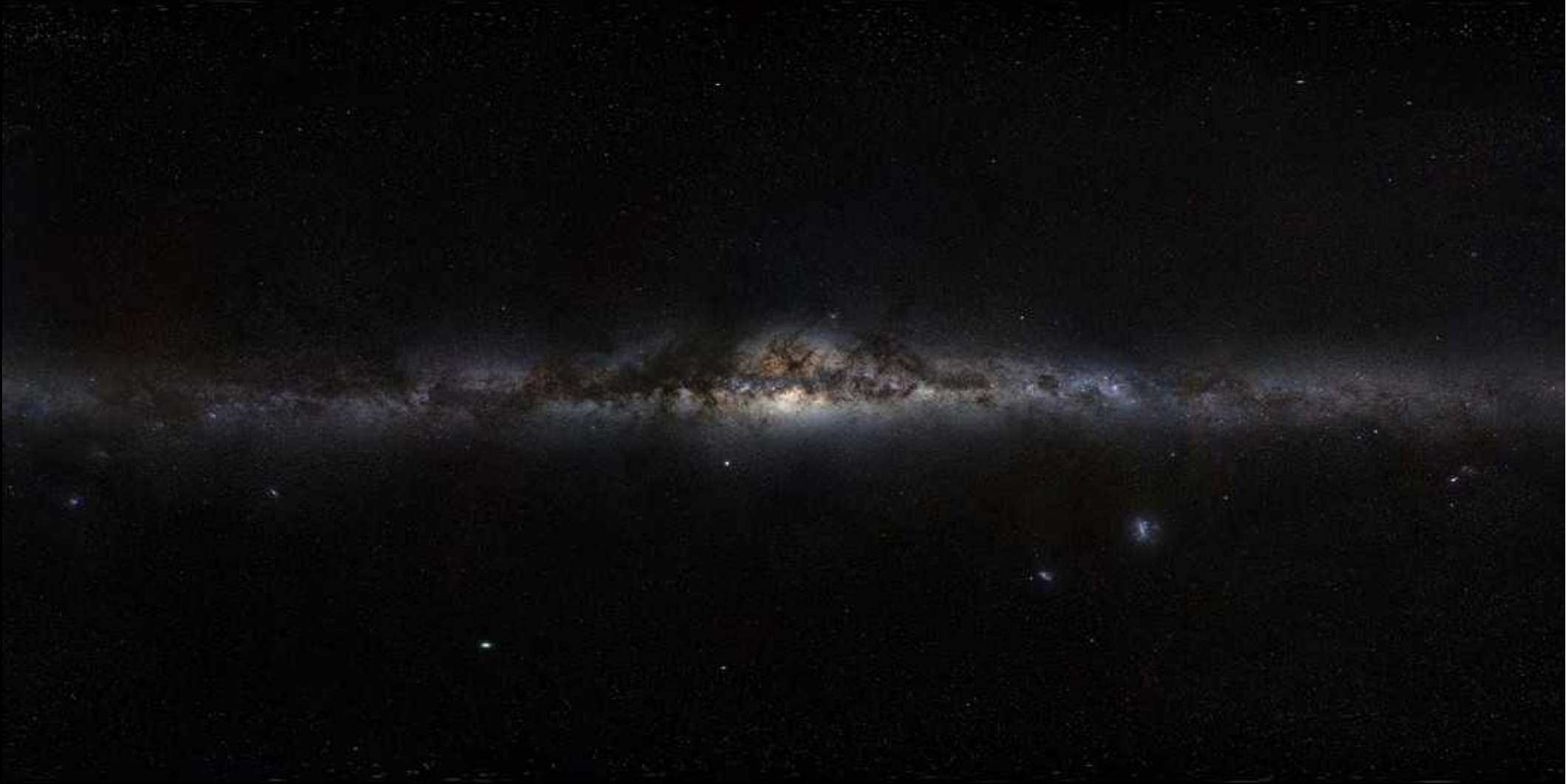

Westerlund 2 Star Cluster = 20 000 ly


Hercules Globular Cluster = 25 100 ly

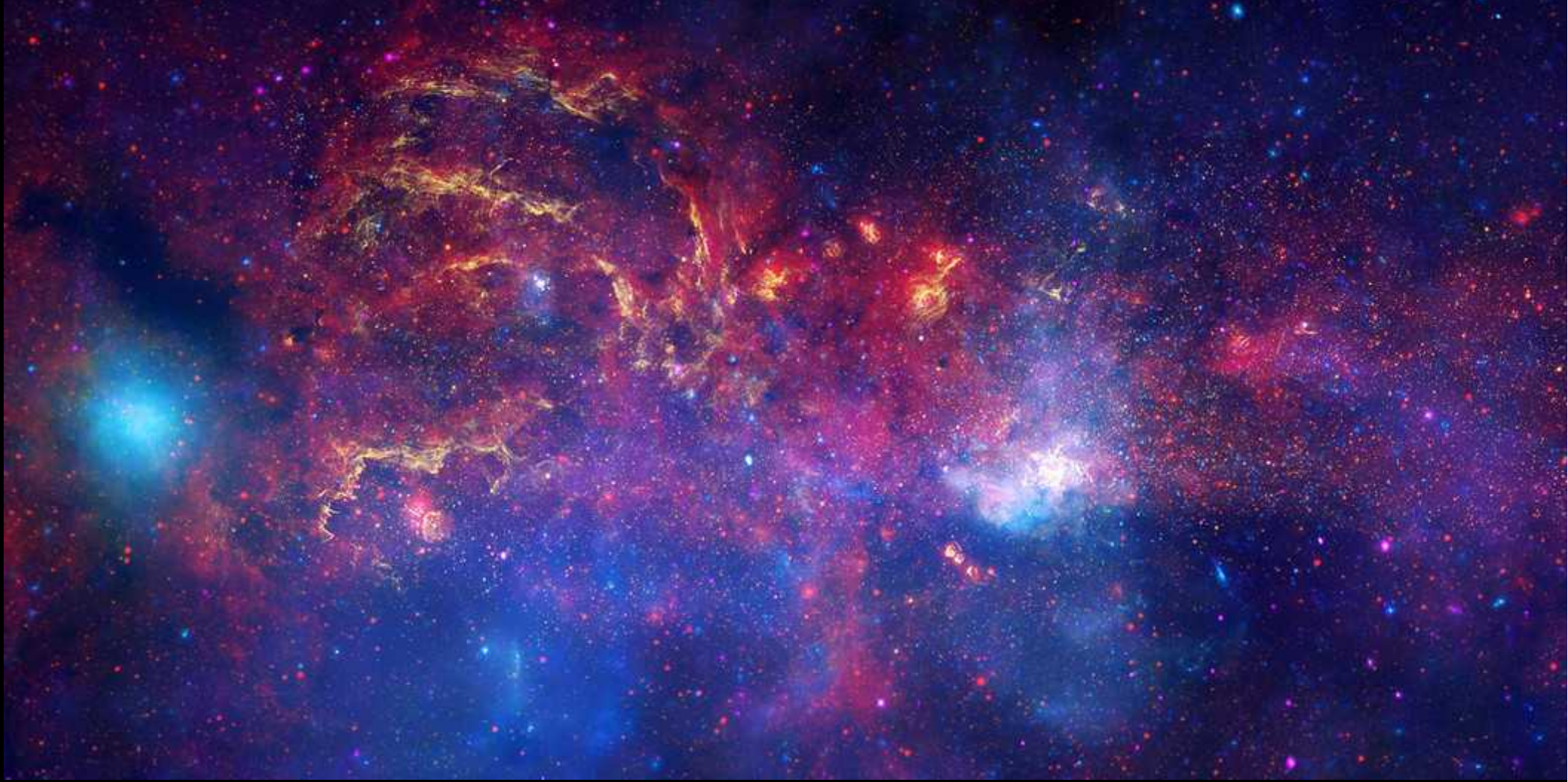

W49B Supernova = 26 000 ly



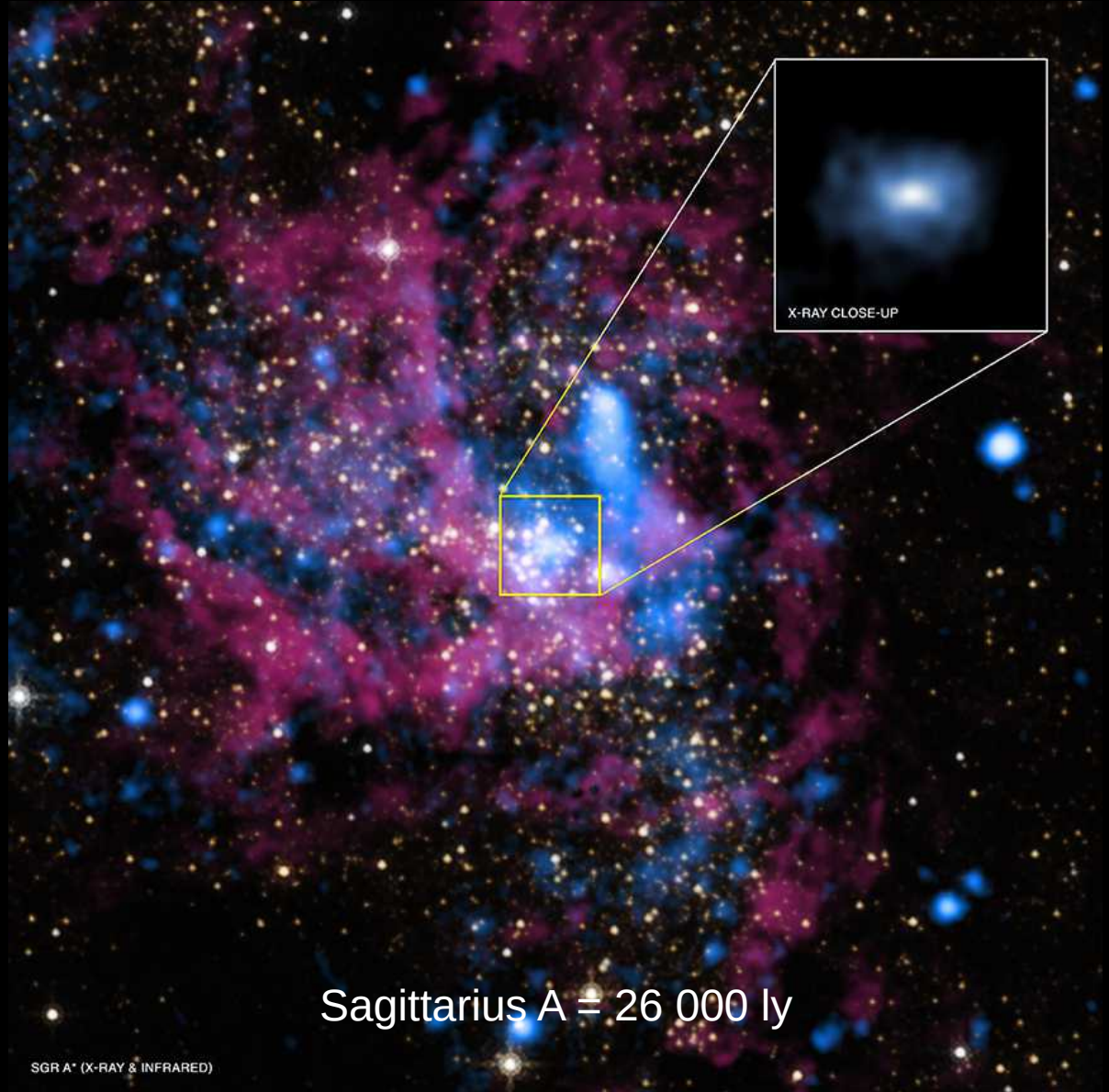
WR 31a Blue Bubble = 30 000 ly



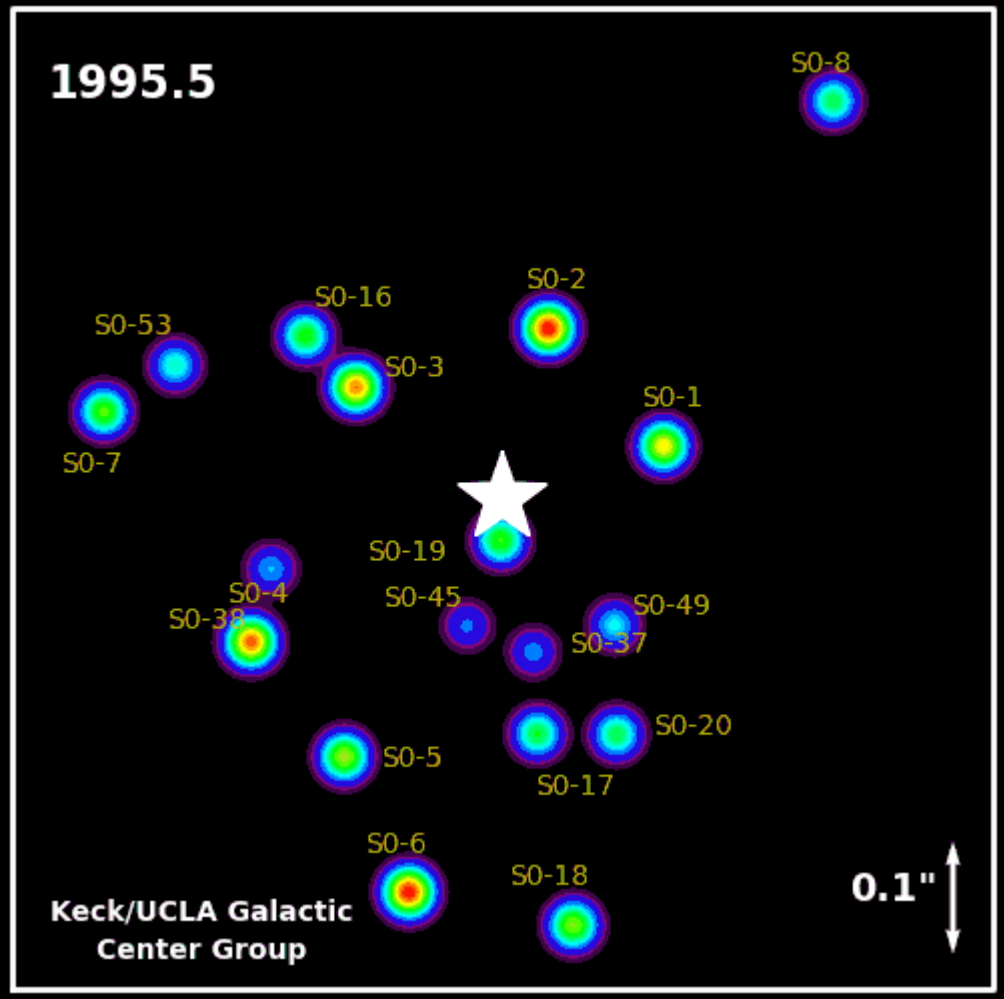
Milky Way Galaxy Center = 26 000 ly



Sagittarius A = 26 000 ly




Sagittarius A = 26 000 ly




Sagittarius A = 26 000 ly

Celebrating the Wonder of the Night Sky

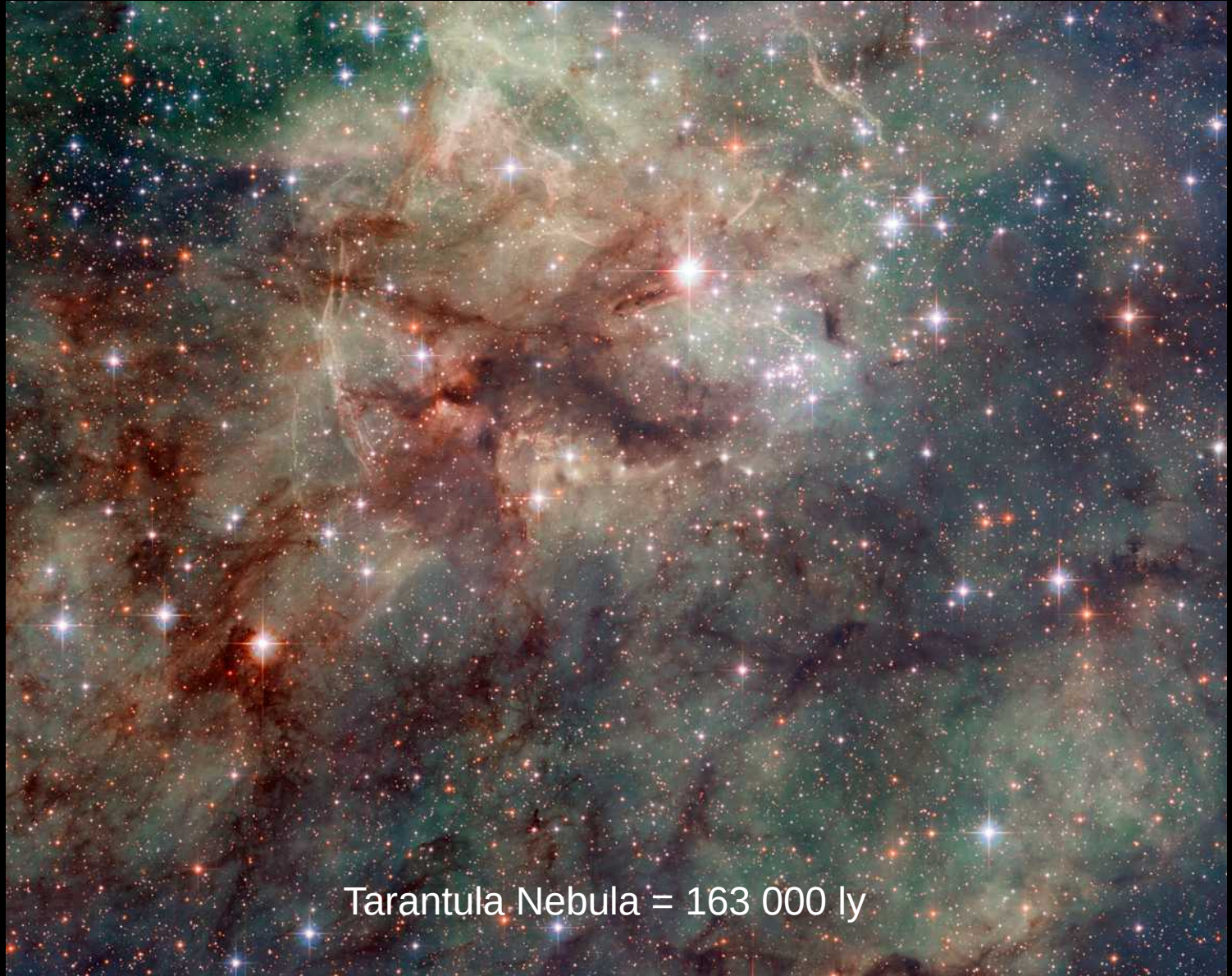
# Local Group of Galaxies


A24
A18
A5
M110
M31
A7
A10
A21
M32
C2
A9
Peg Irr
A15
A16
M33
A28
A11
A26
A20
SagDig
4 mill
A23
A13
A19
A1
A25
NGC 185
NGC 147
A3
A17
A2
A22
A6
A14
LGS 3
DDO 210
2 million ly
CV II
CV I
NGC 6822
UMa I
Hercules
Draco
Boote I
Pisces II
Ursa minor
Boote III
Leo A
IC 1613
UMa II
Coma
Leo I
Triangulum 2
Sextans
Cetus
SagDeg
Leo V
Milky Way
Leo IV
Leo II
Reticulum II
Leo T
Sculptor
Carina
Grus
LMC
Crater 2
WLM
KKR25
Horologium
SMC
Tucana II
Fornax

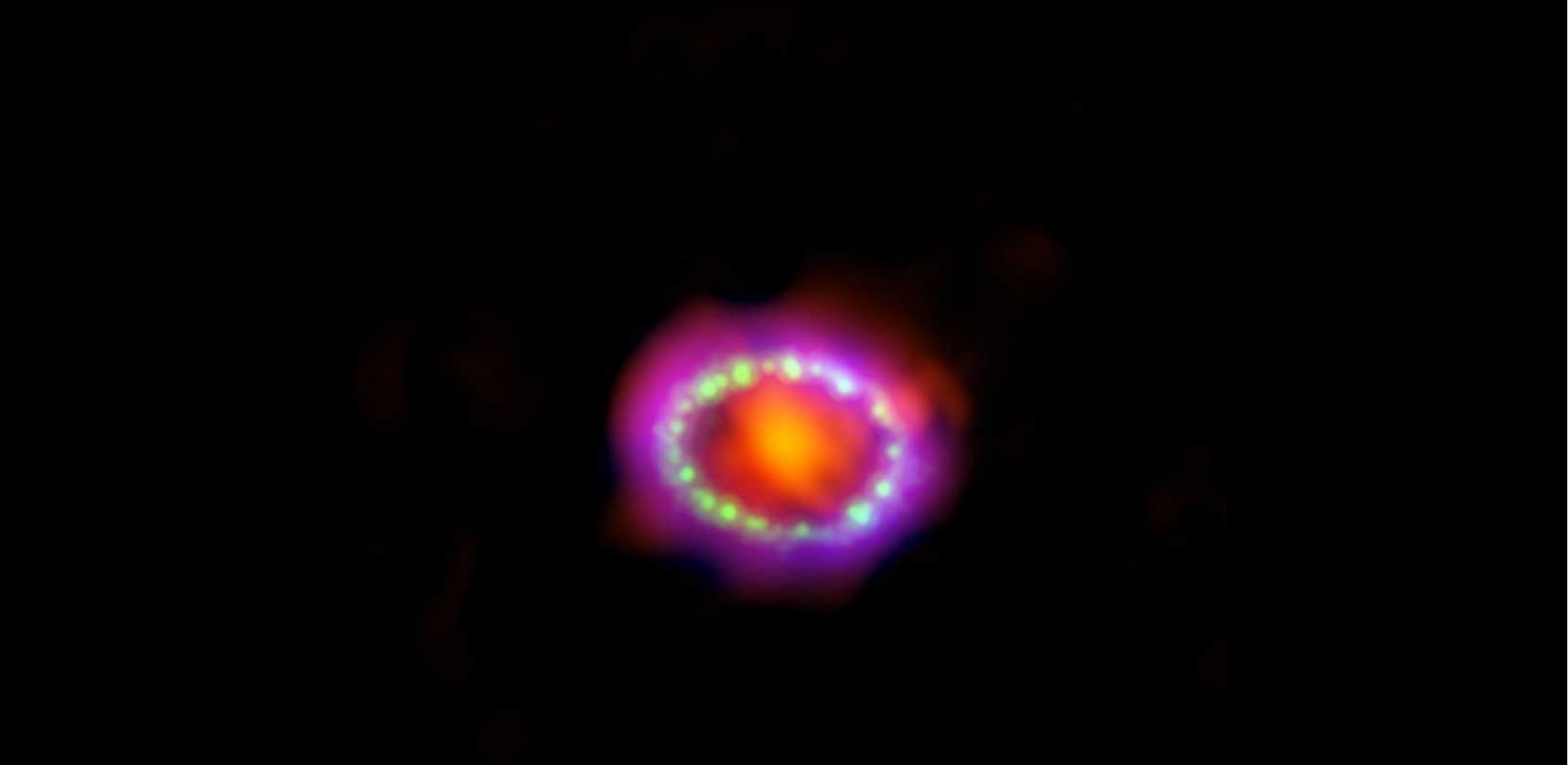

Large Magellenic Cloud = 163 000 ly


Large Magellenic Cloud = 163 000 ly

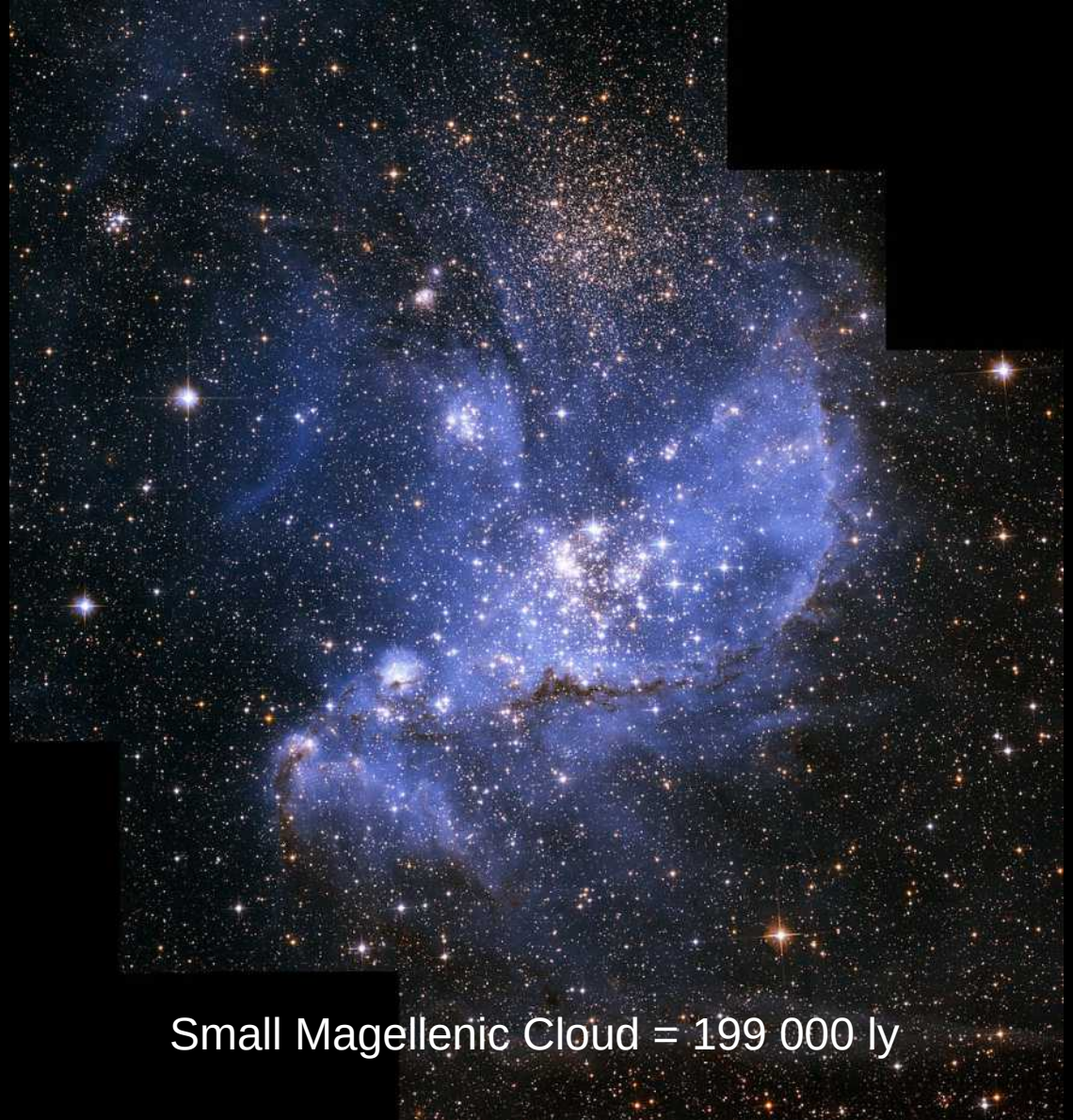

Large Magellenic Cloud = 163 000 ly


Tarantula Nebula = 163 000 ly

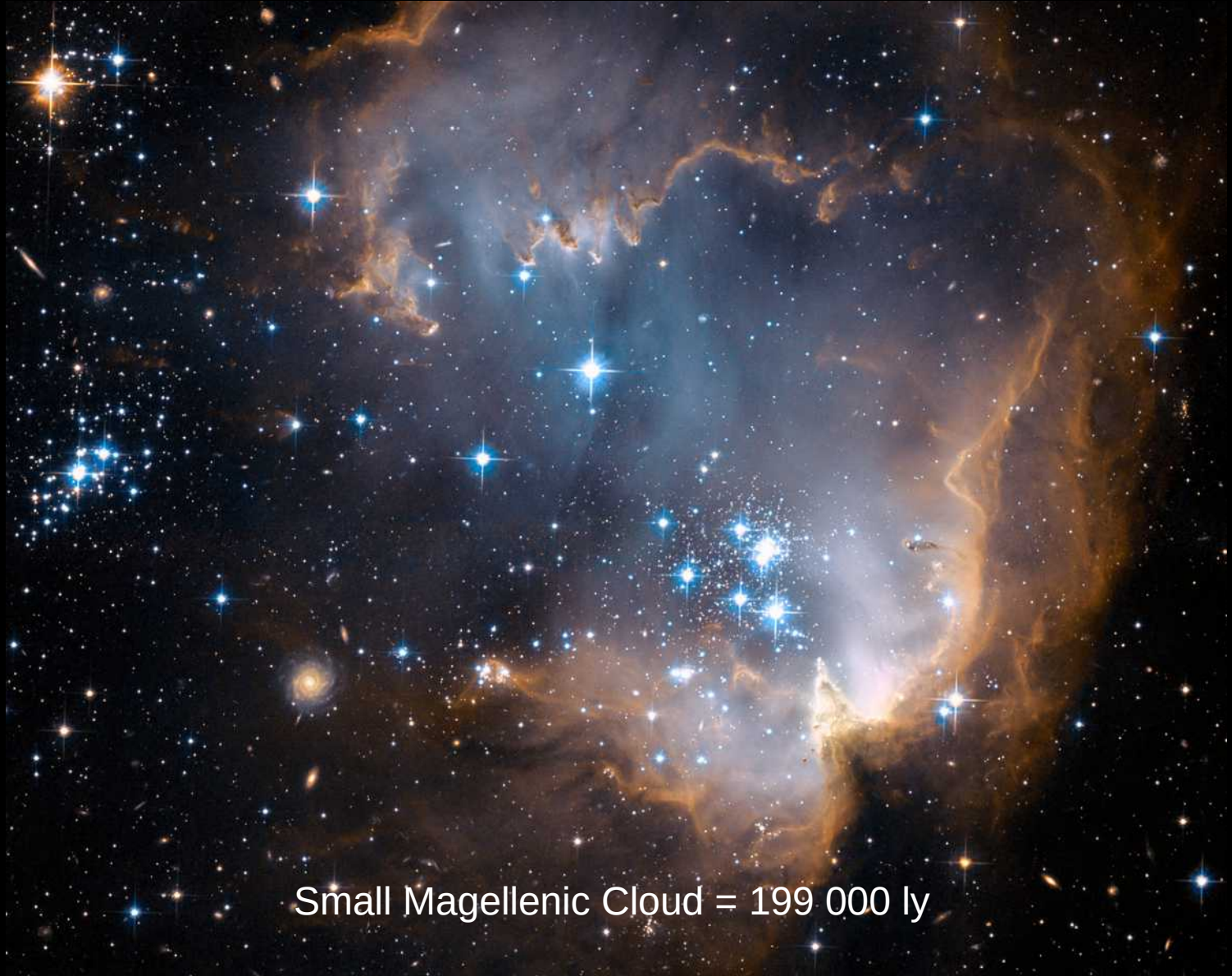

SN1987a Super Nova = 163 000 ly

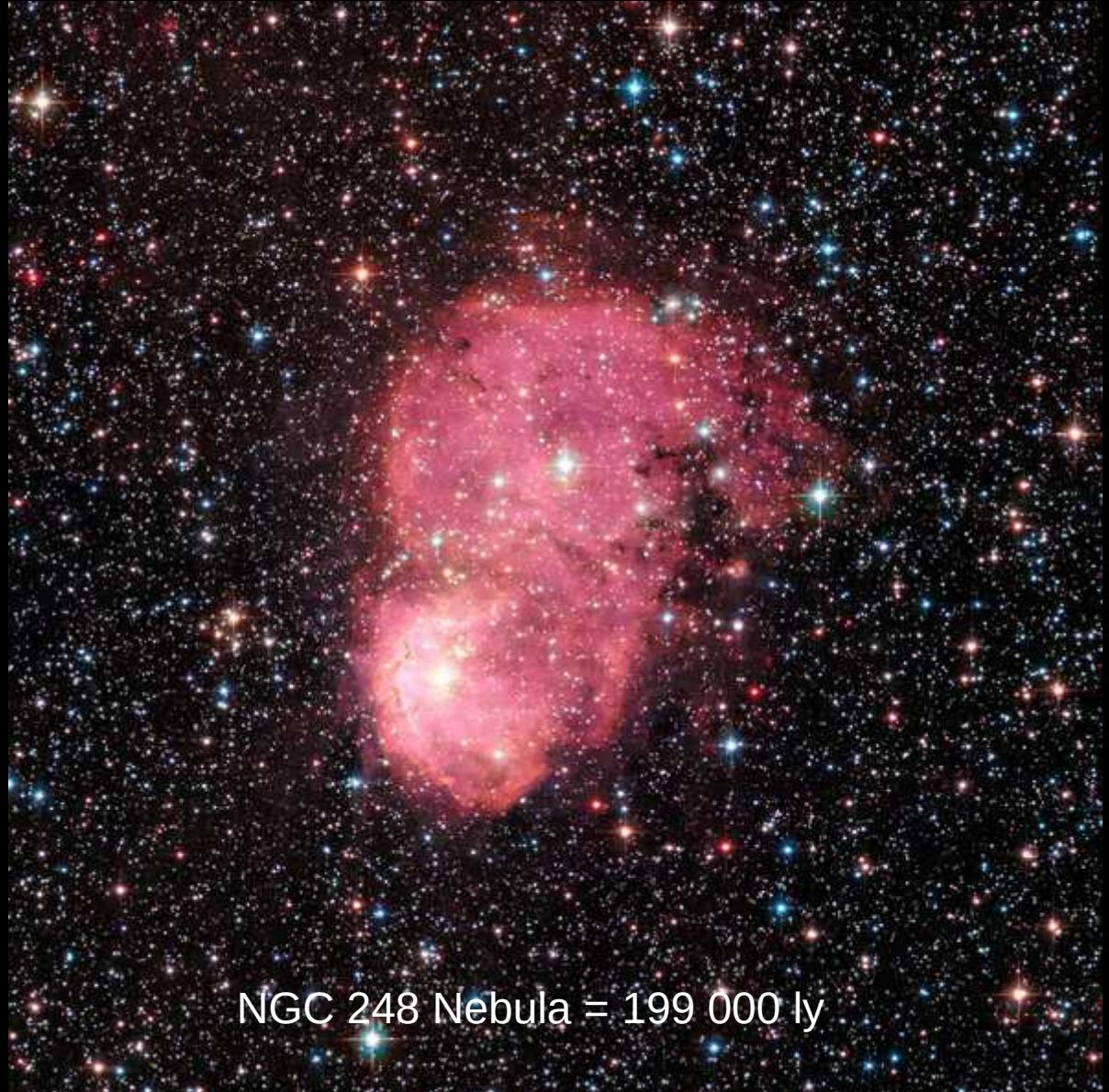


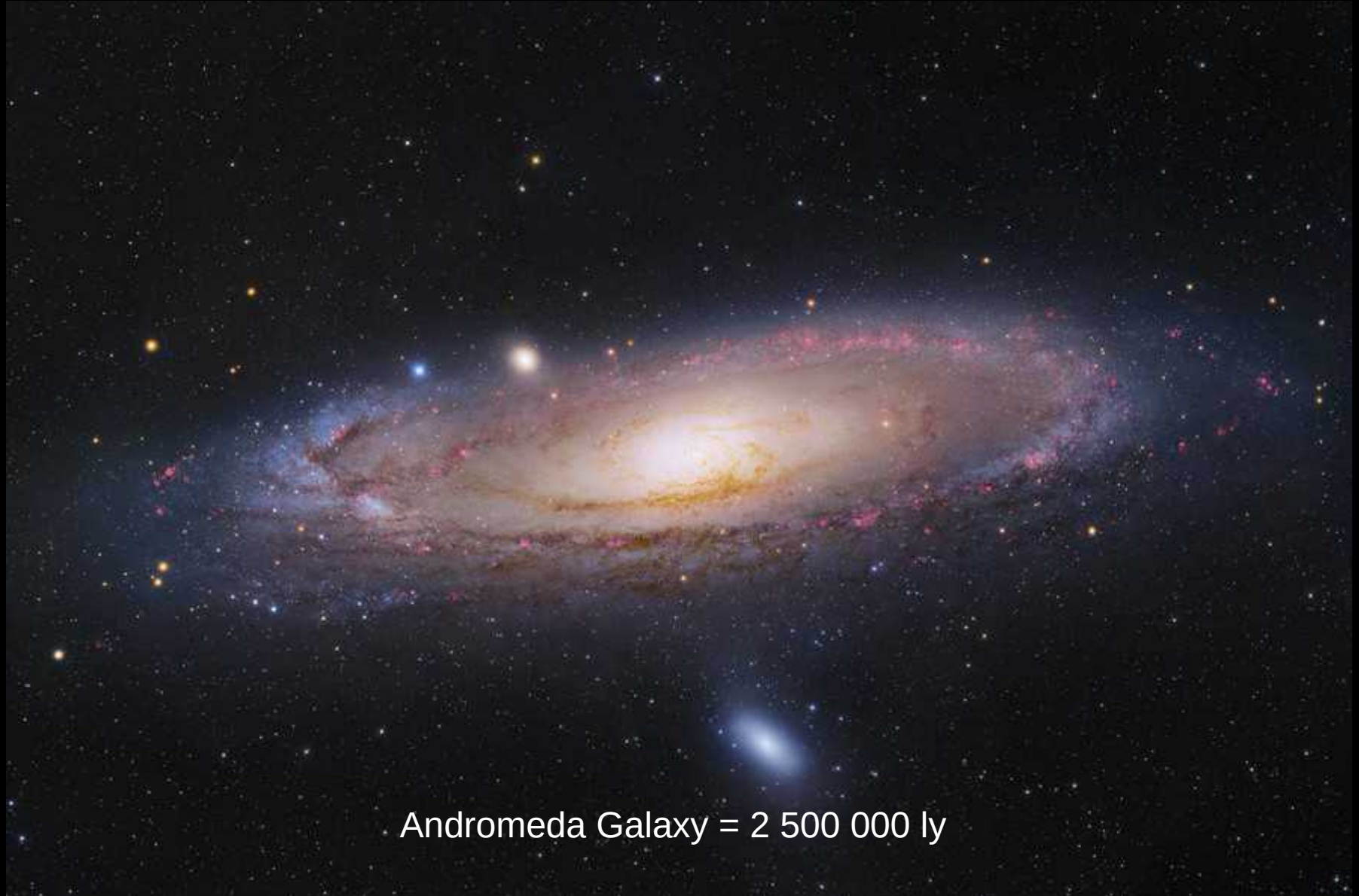
SN1987a Super Nova = 163 000 ly

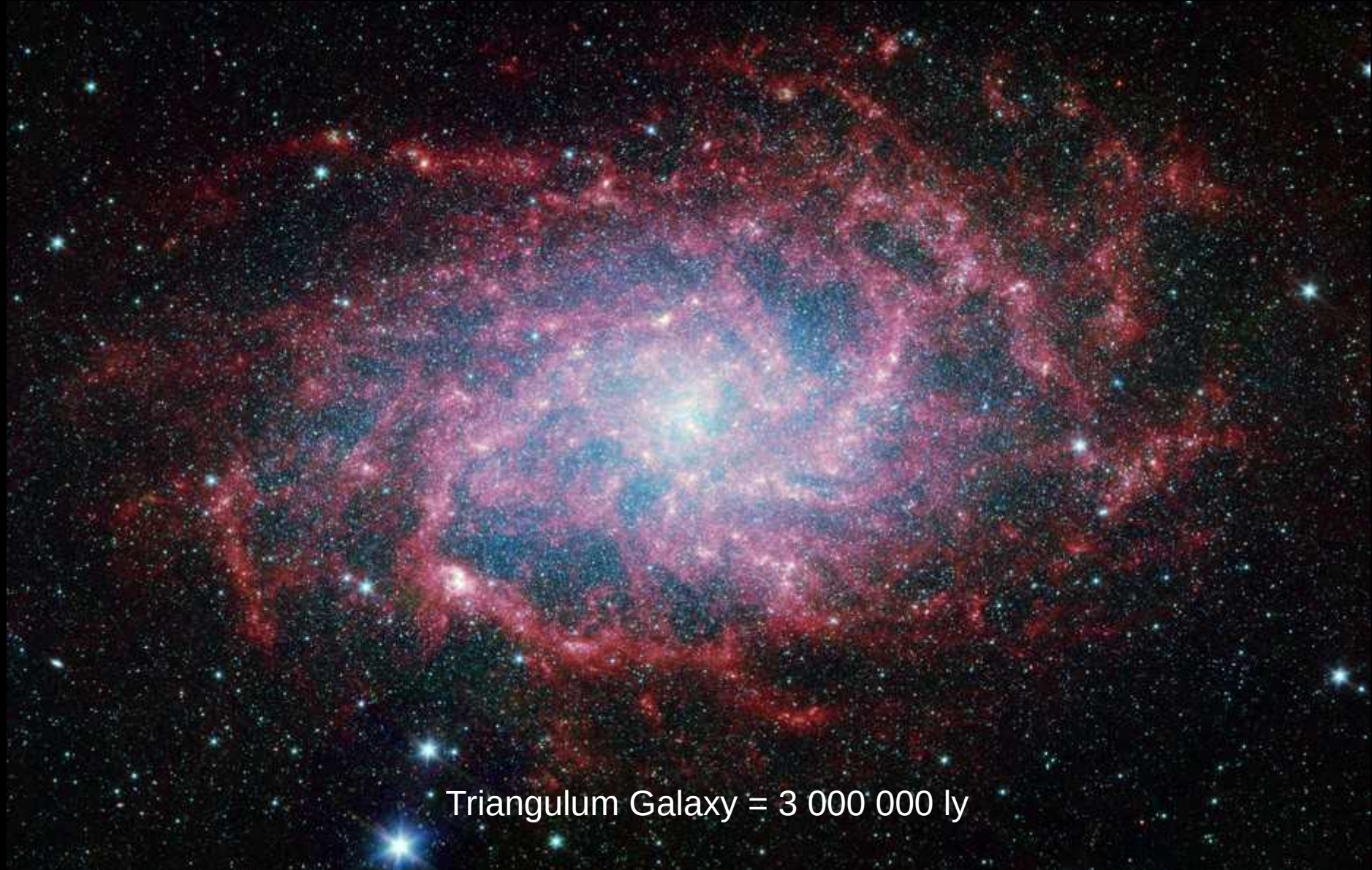


Small Magellenic Cloud = 199 000 ly


Small Magellenic Cloud = 199 000 ly

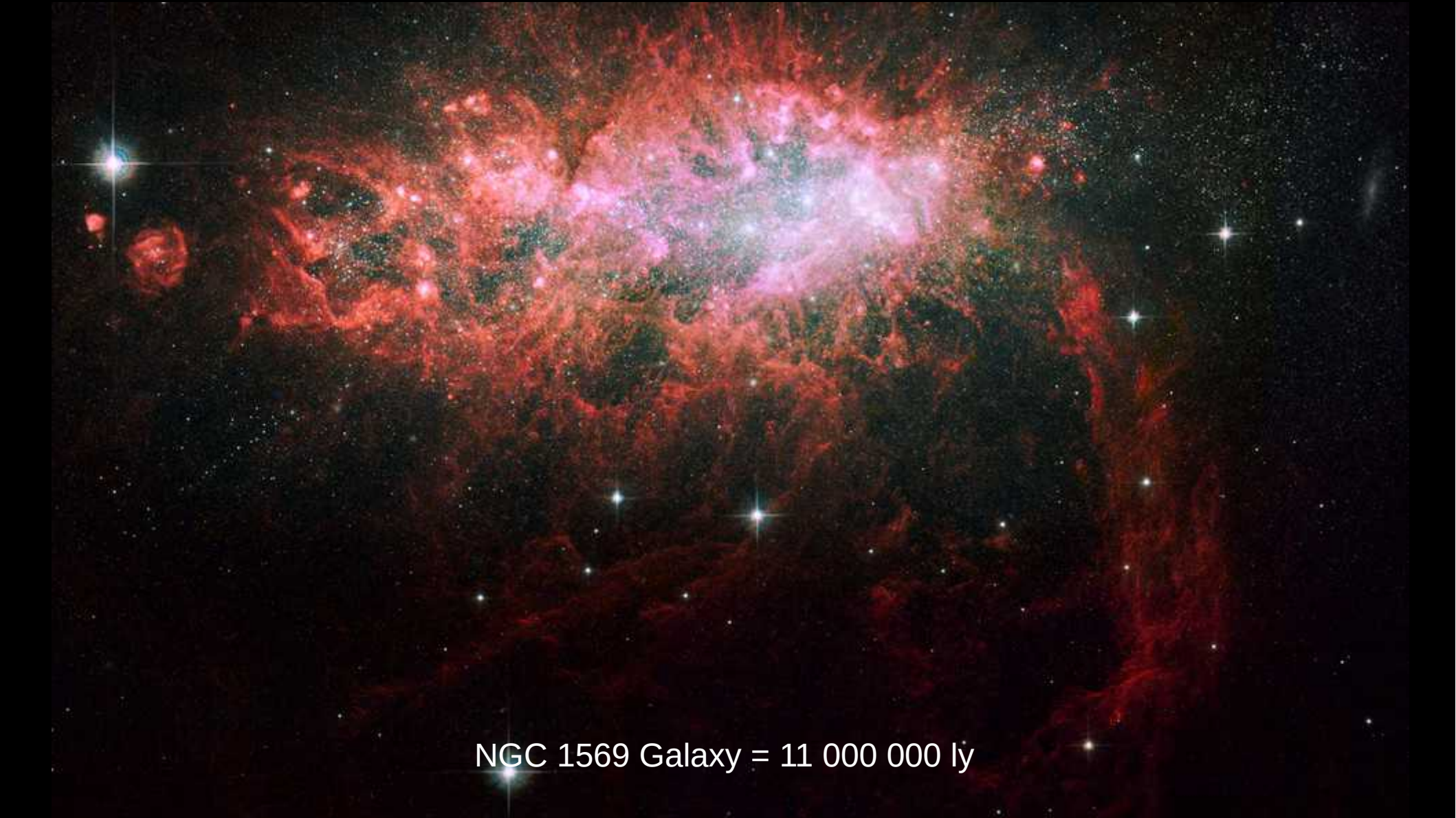

NGC 248 Nebula = 199 000 ly

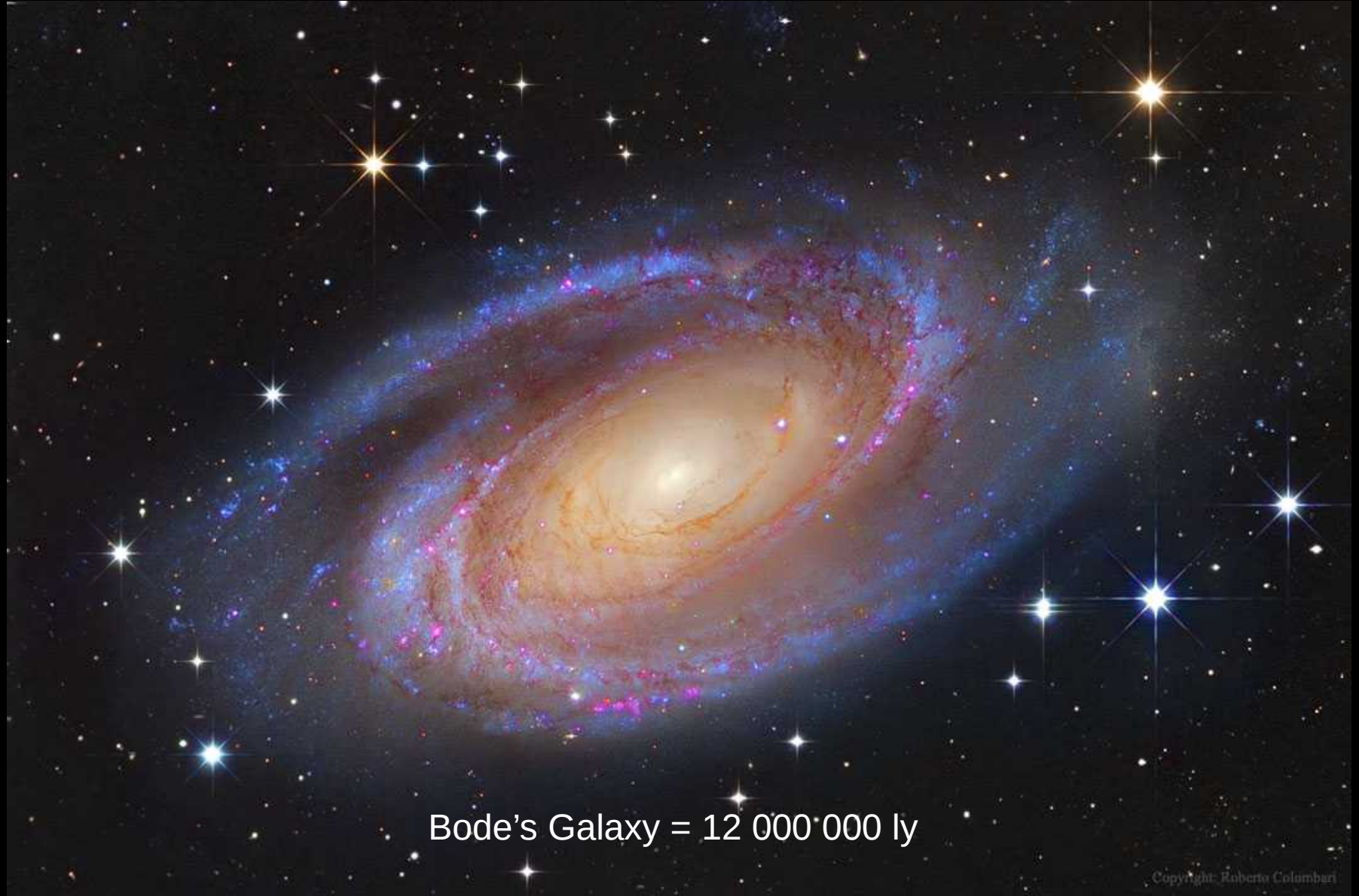

Andromeda Galaxy = 2 500 000 ly

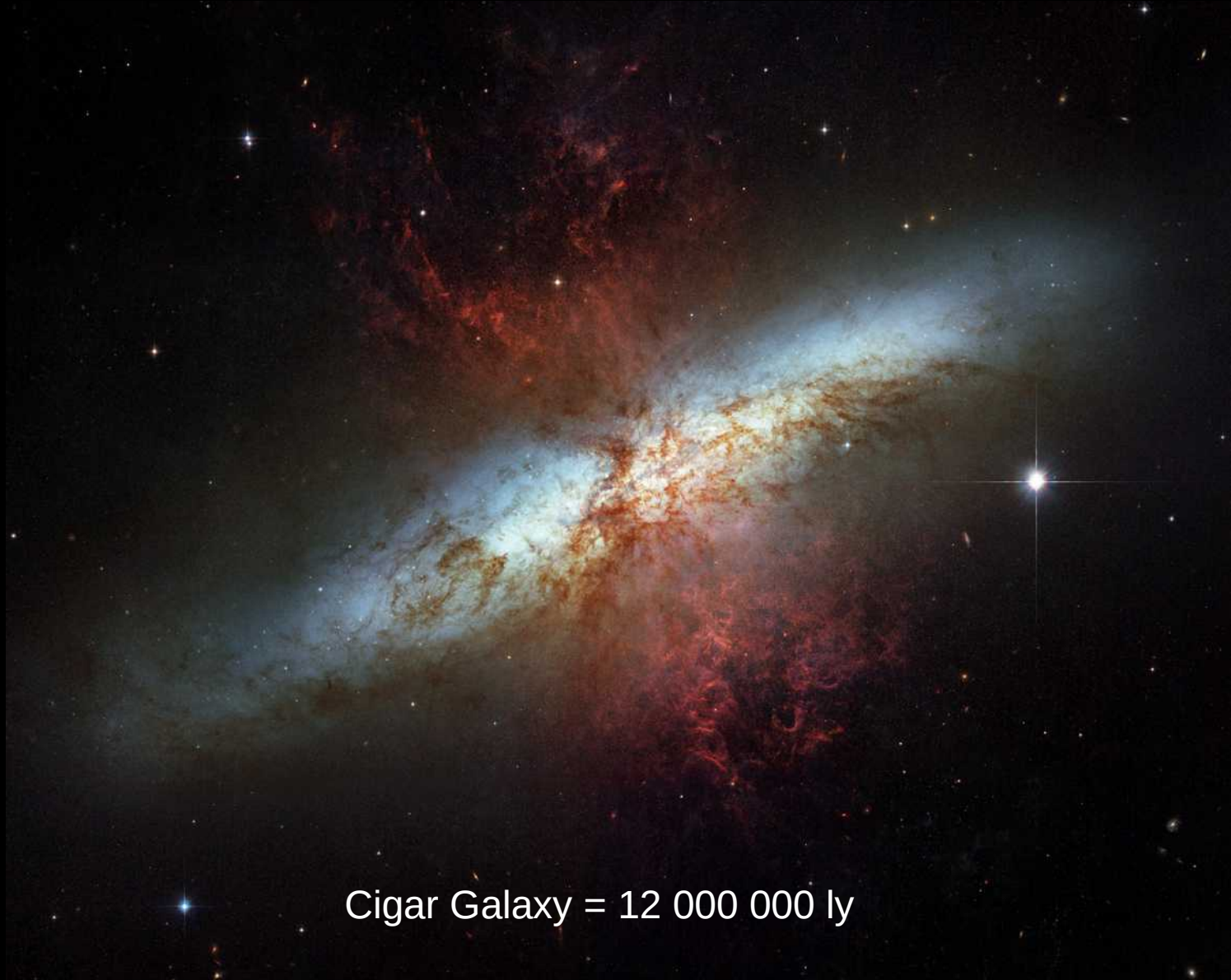

Triangulum Galaxy = 3 000 000 ly

Celebrating the Wonder of the Night Sky

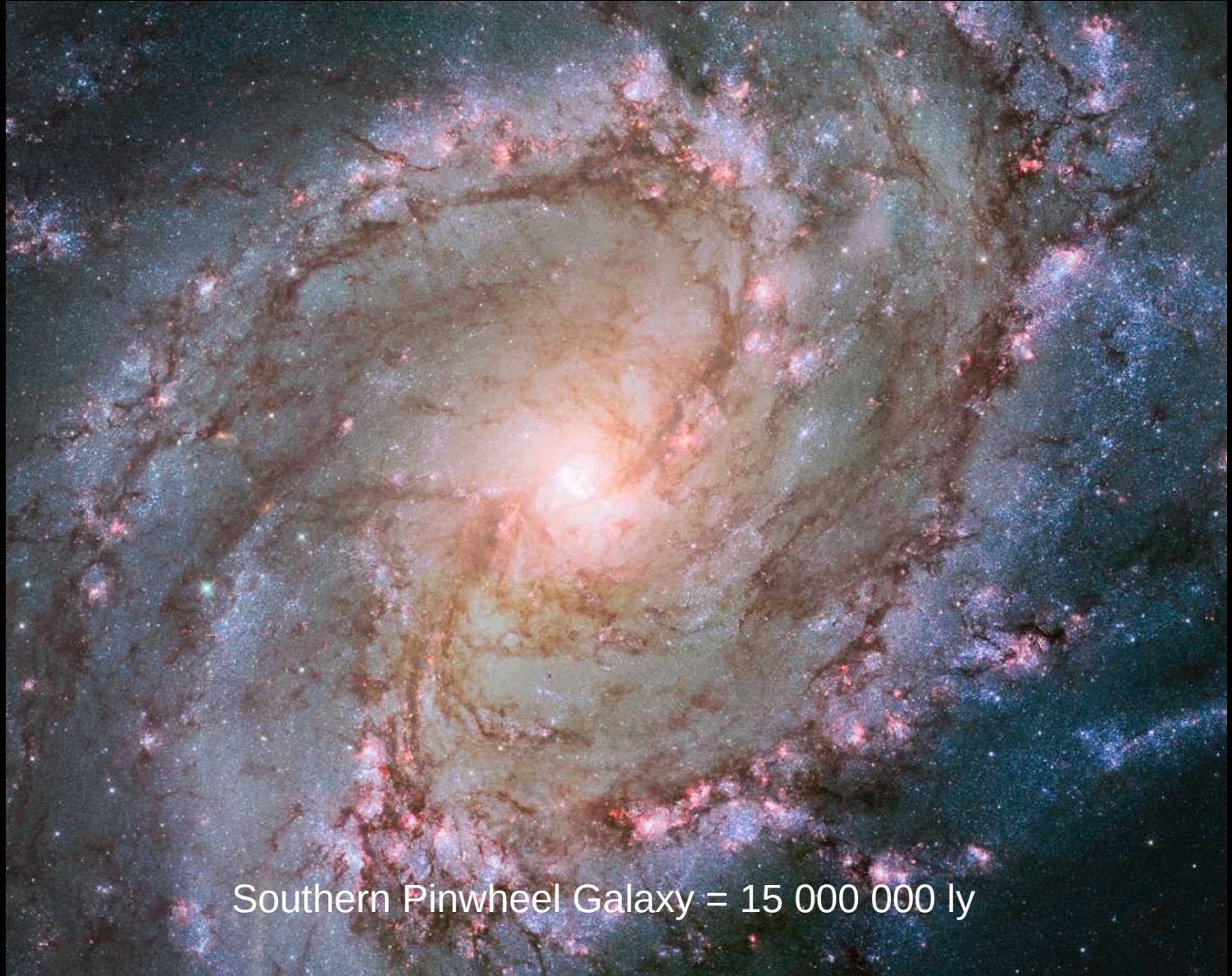
# Universe

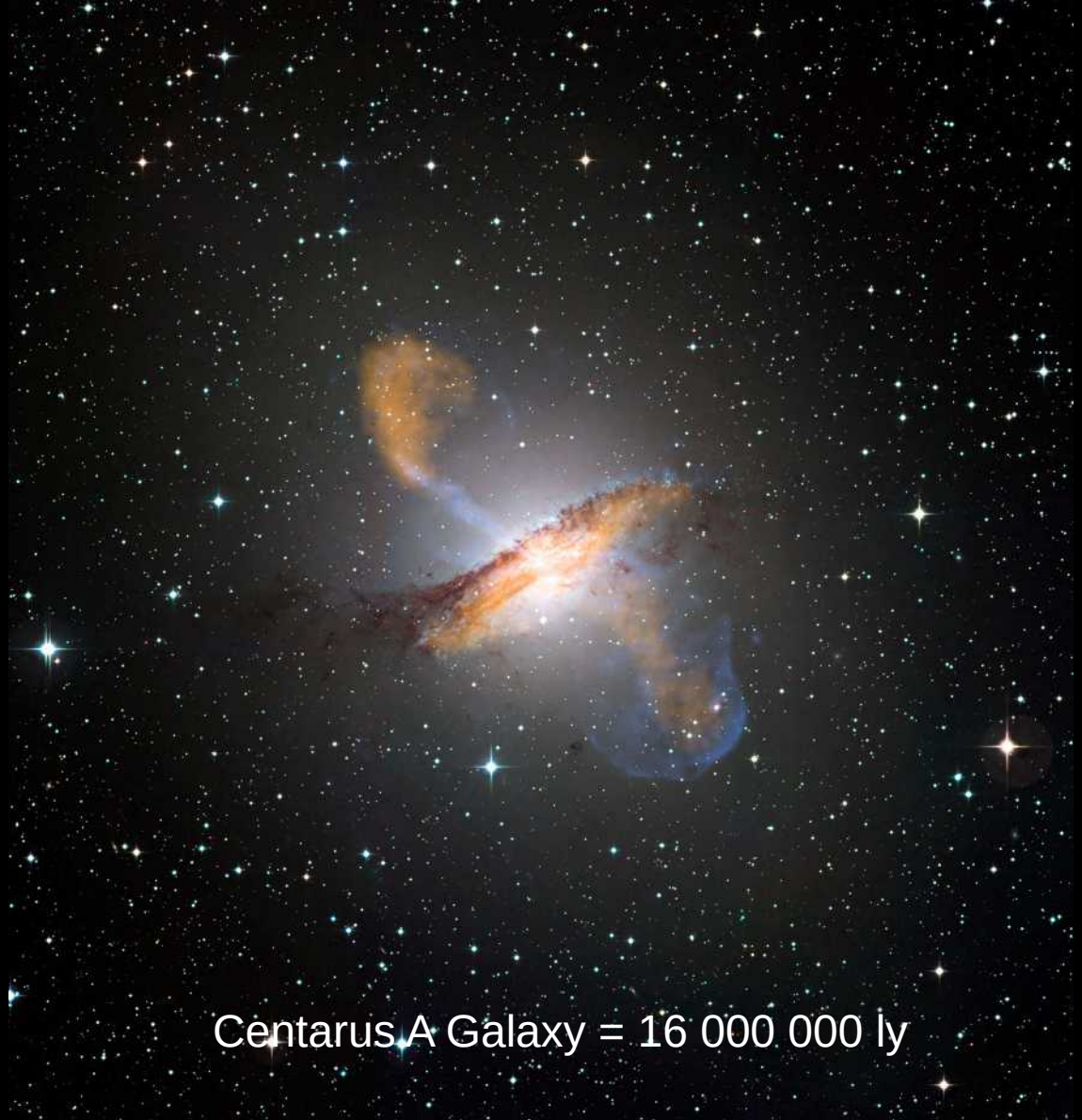

NGC 1569 Galaxy = 11 000 000 ly


Bode’s Galaxy = 12 000 000 ly
Copyright: Roberto Colombari

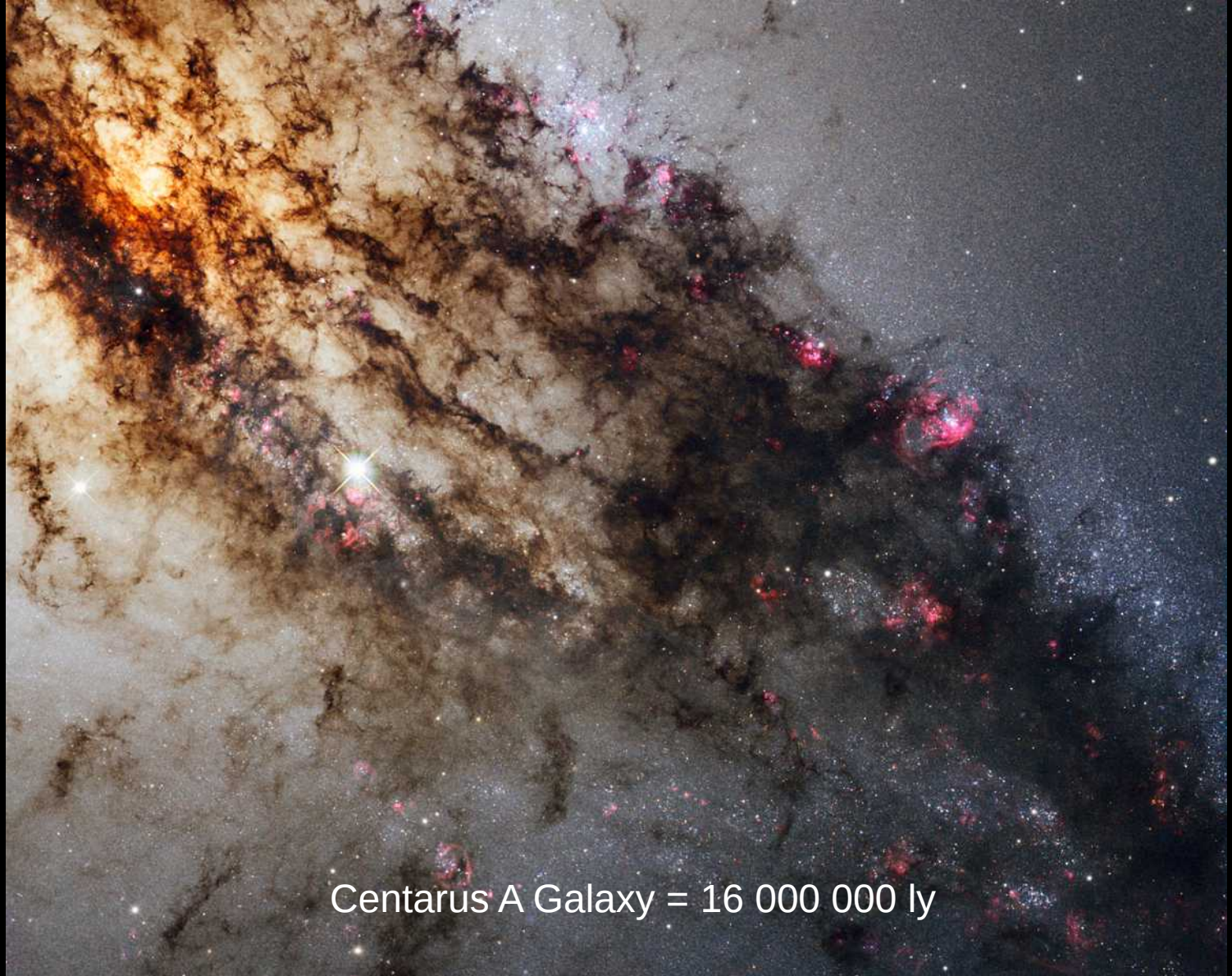


Cigar Galaxy = 12 000 000 ly

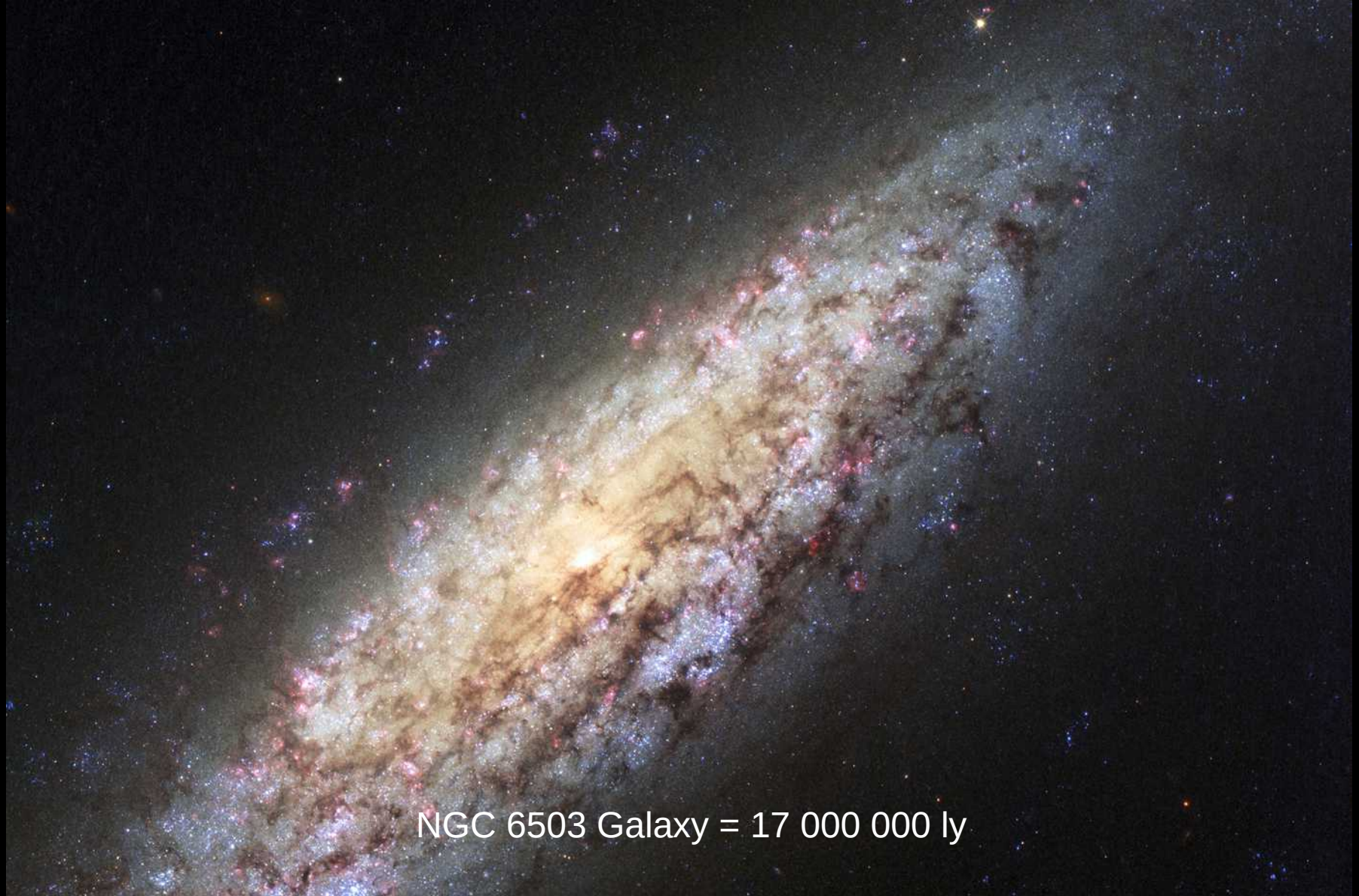

Southern Pinwheel Galaxy = 15 000 000 ly

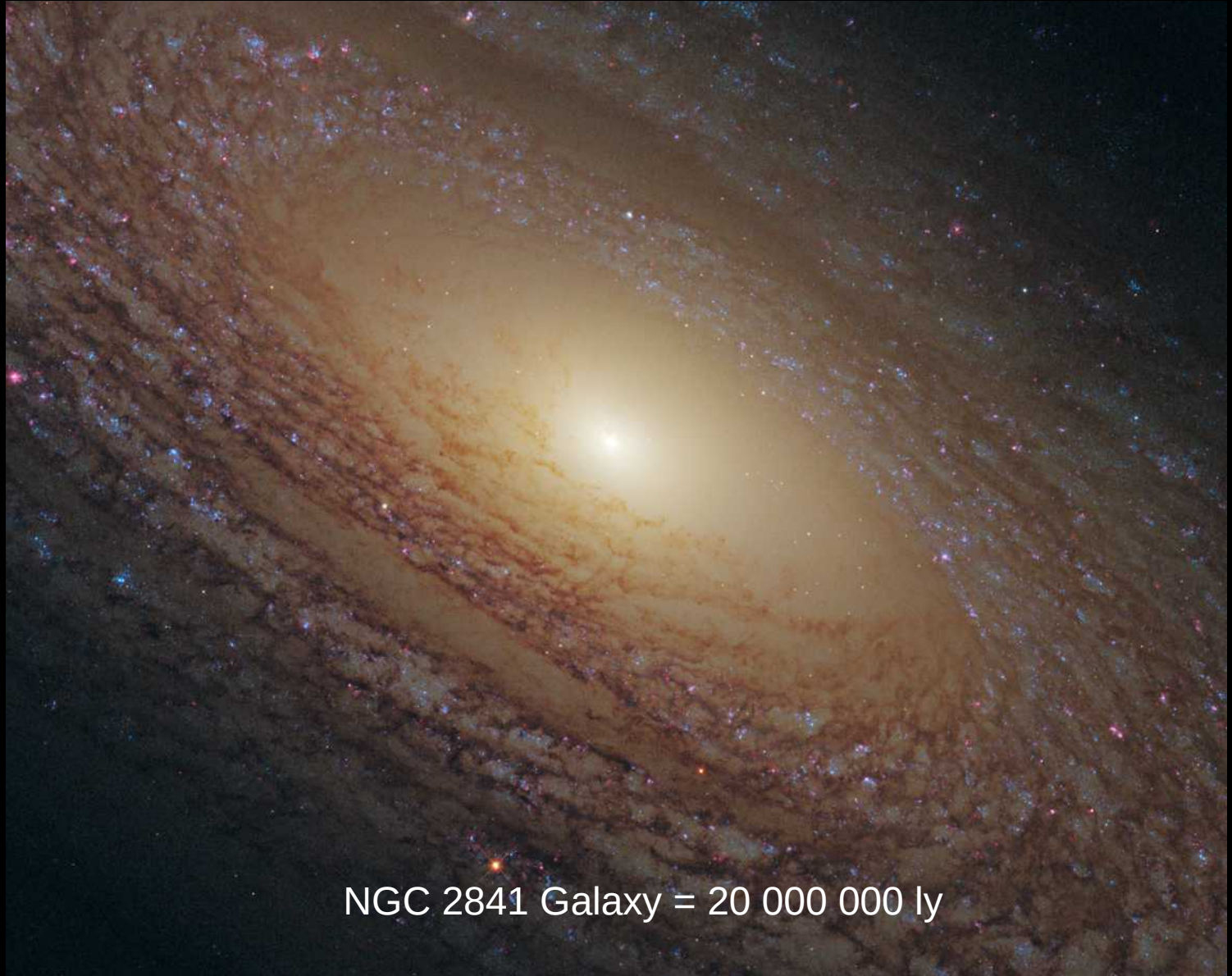


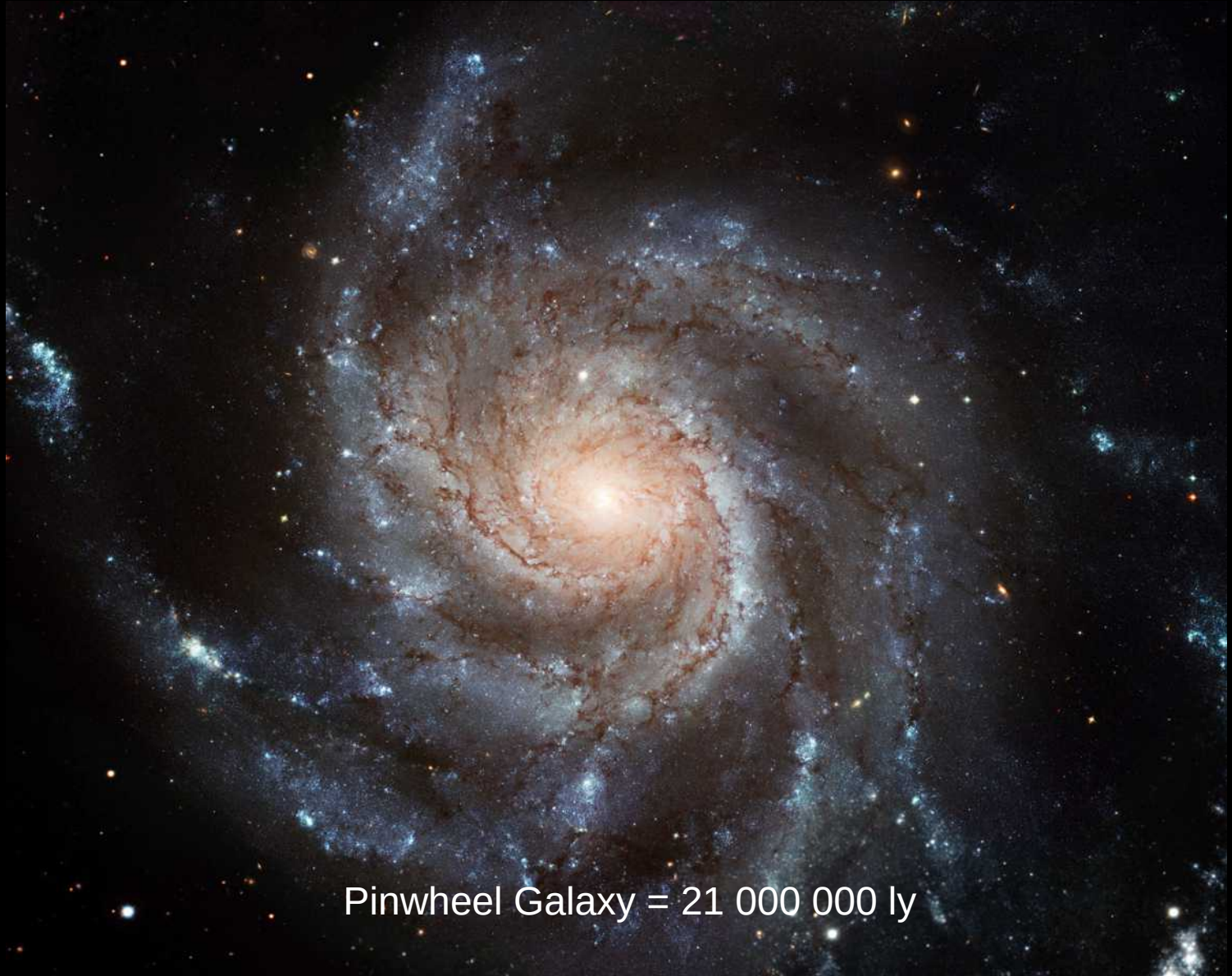
Centarus A Galaxy = 16 000 000 ly


Centarus A Galaxy = 16 000 000 ly


M94 Galaxy = 17 000 000 ly


NGC 6503 Galaxy = 17 000 000 ly


NGC 2841 Galaxy = 20 000 000 ly

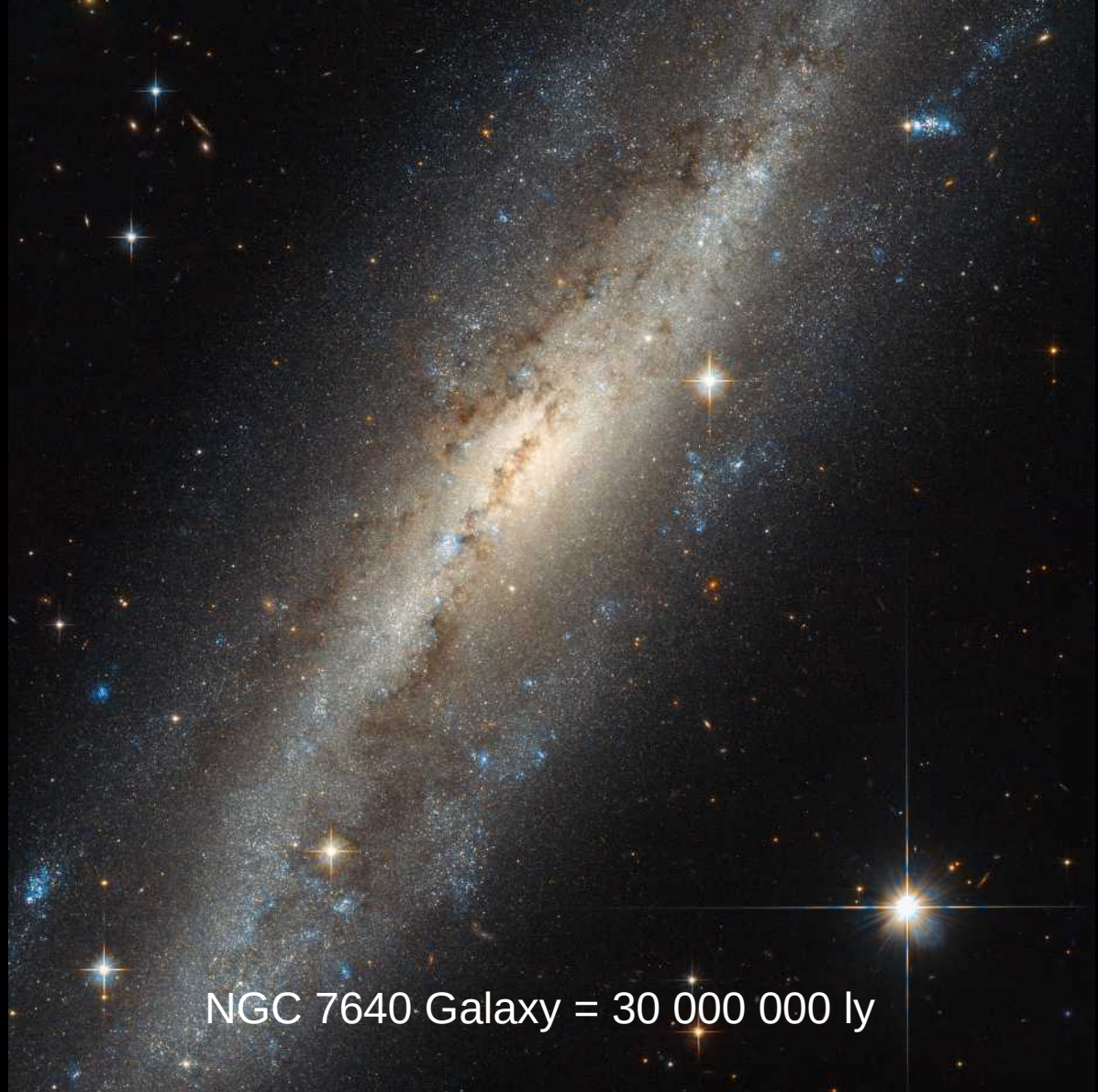

Pinwheel Galaxy = 21 000 000 ly

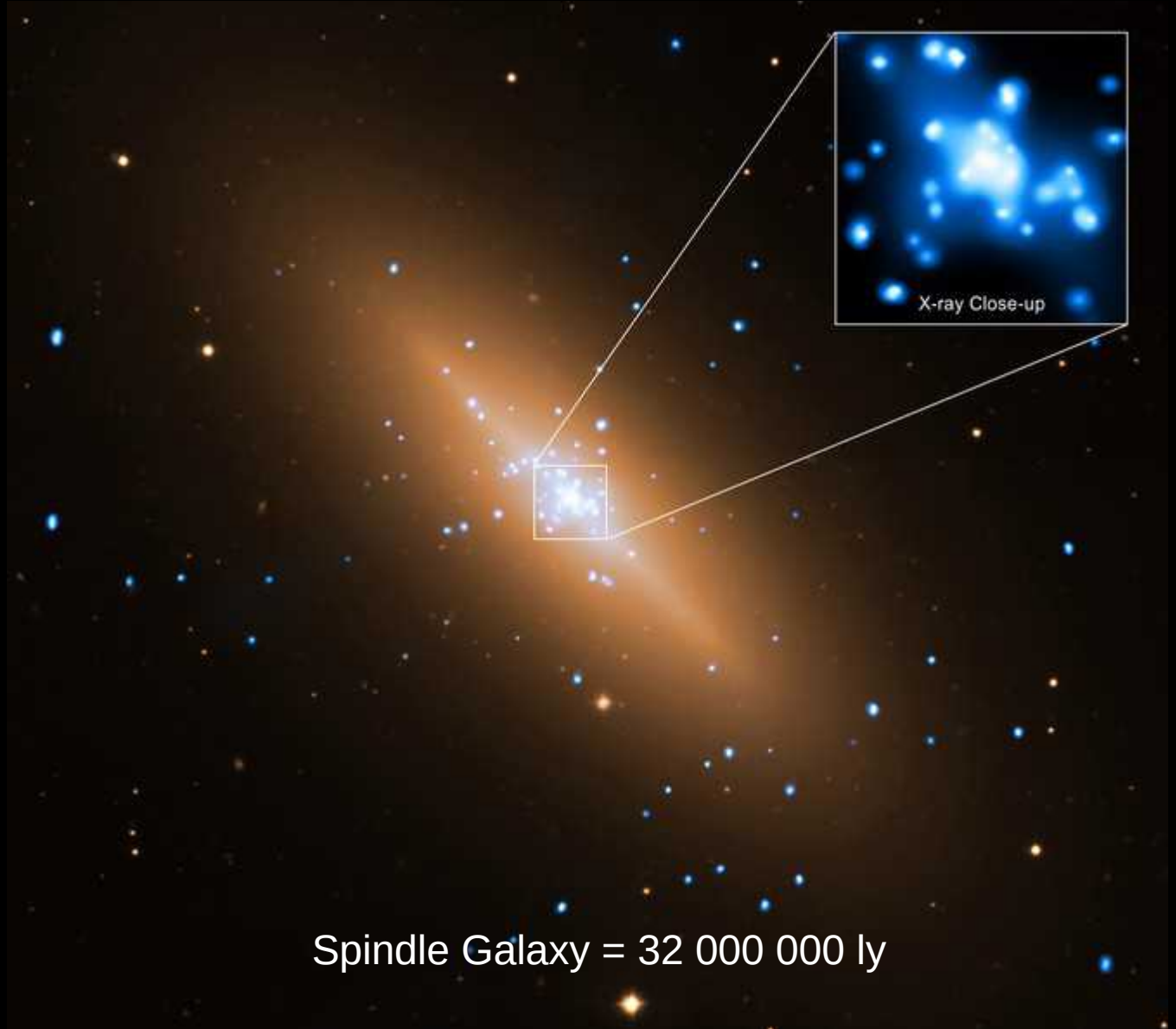
Whirlpool Galaxy = 23 000 000 ly

M106 Galaxy = 25 000 000 ly

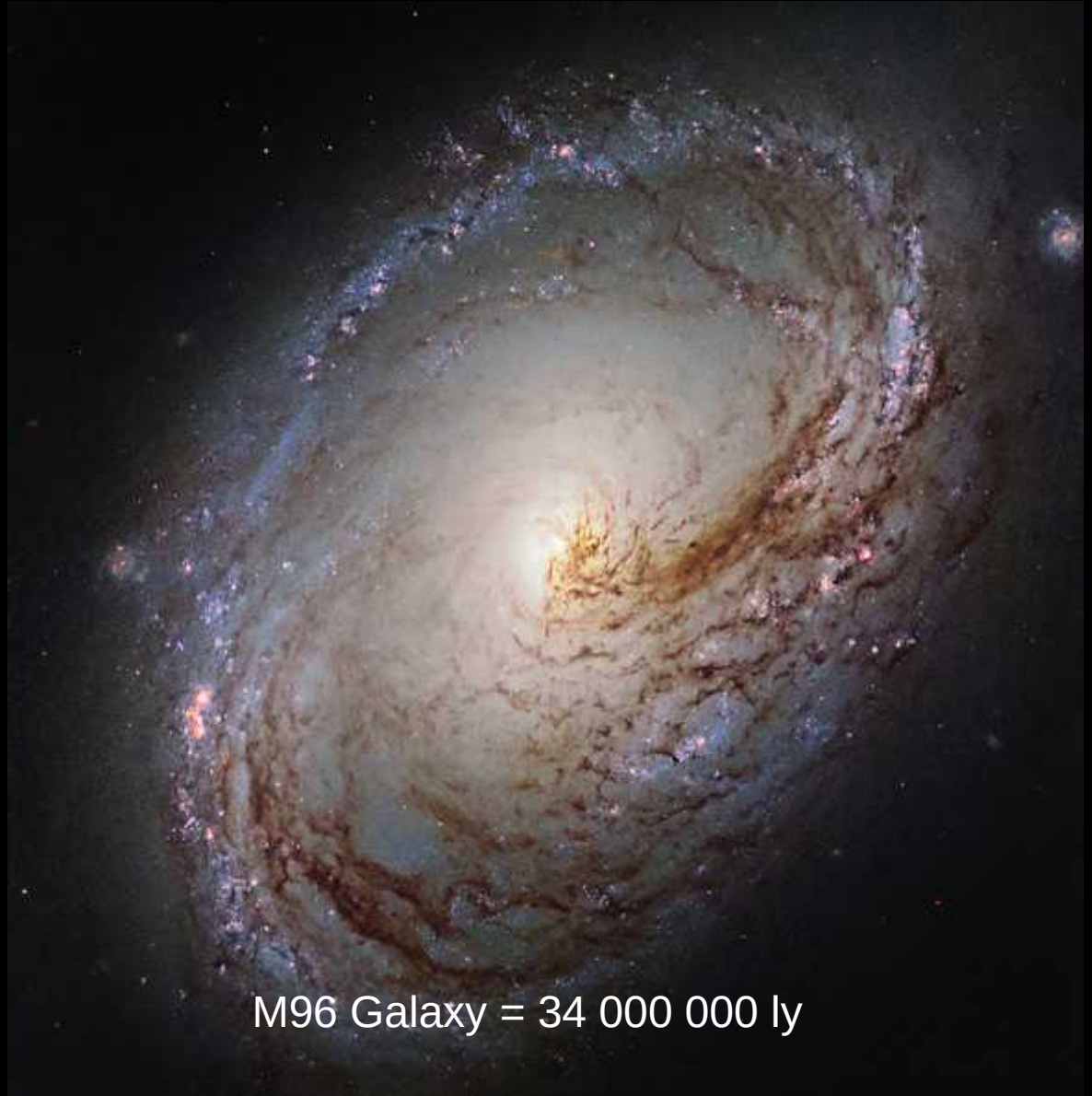

NGC 3521 Galaxy = 26 000 000 ly


Sombrero Galaxy = 29 000 000 ly

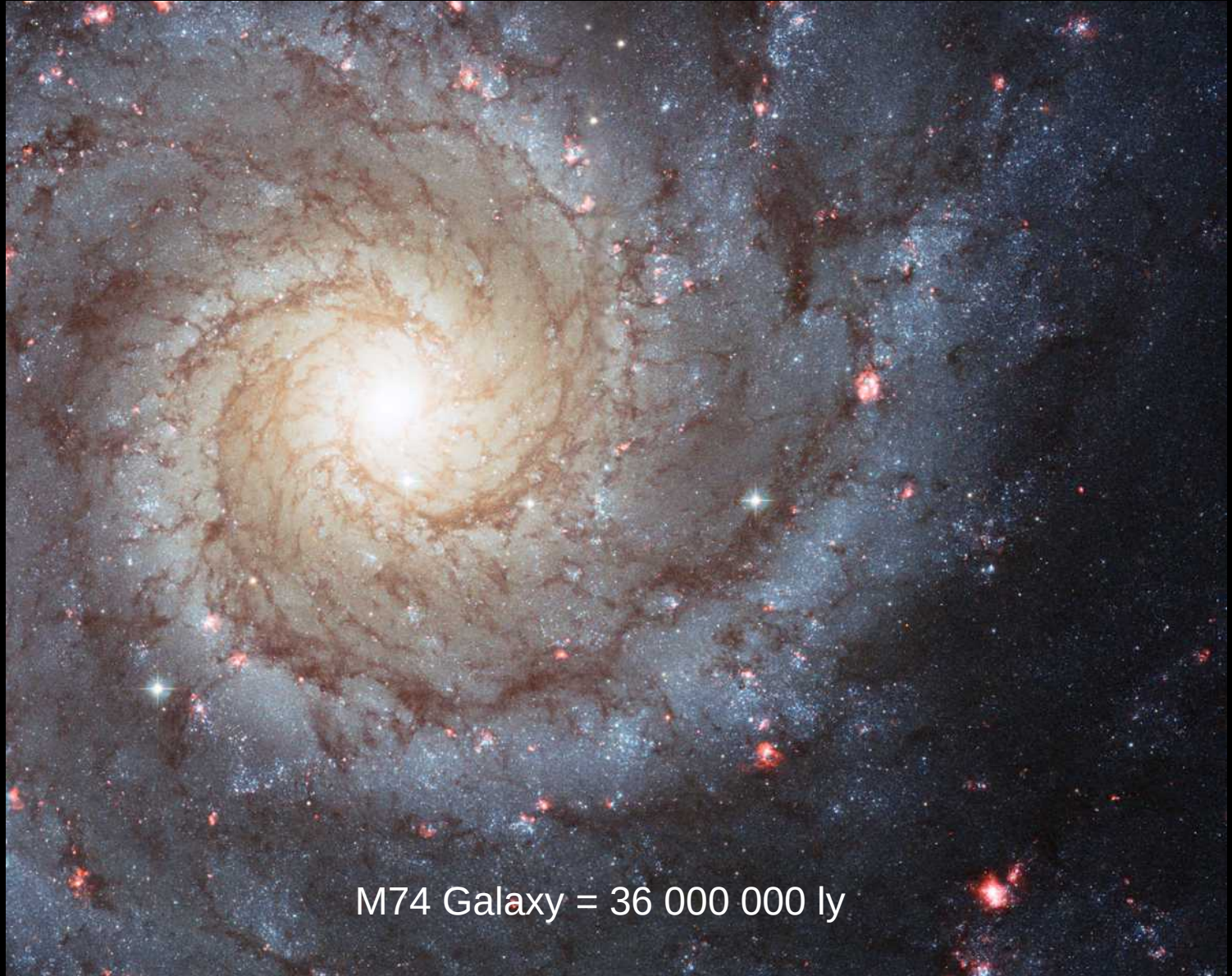

NGC 7640 Galaxy = 30 000 000 ly

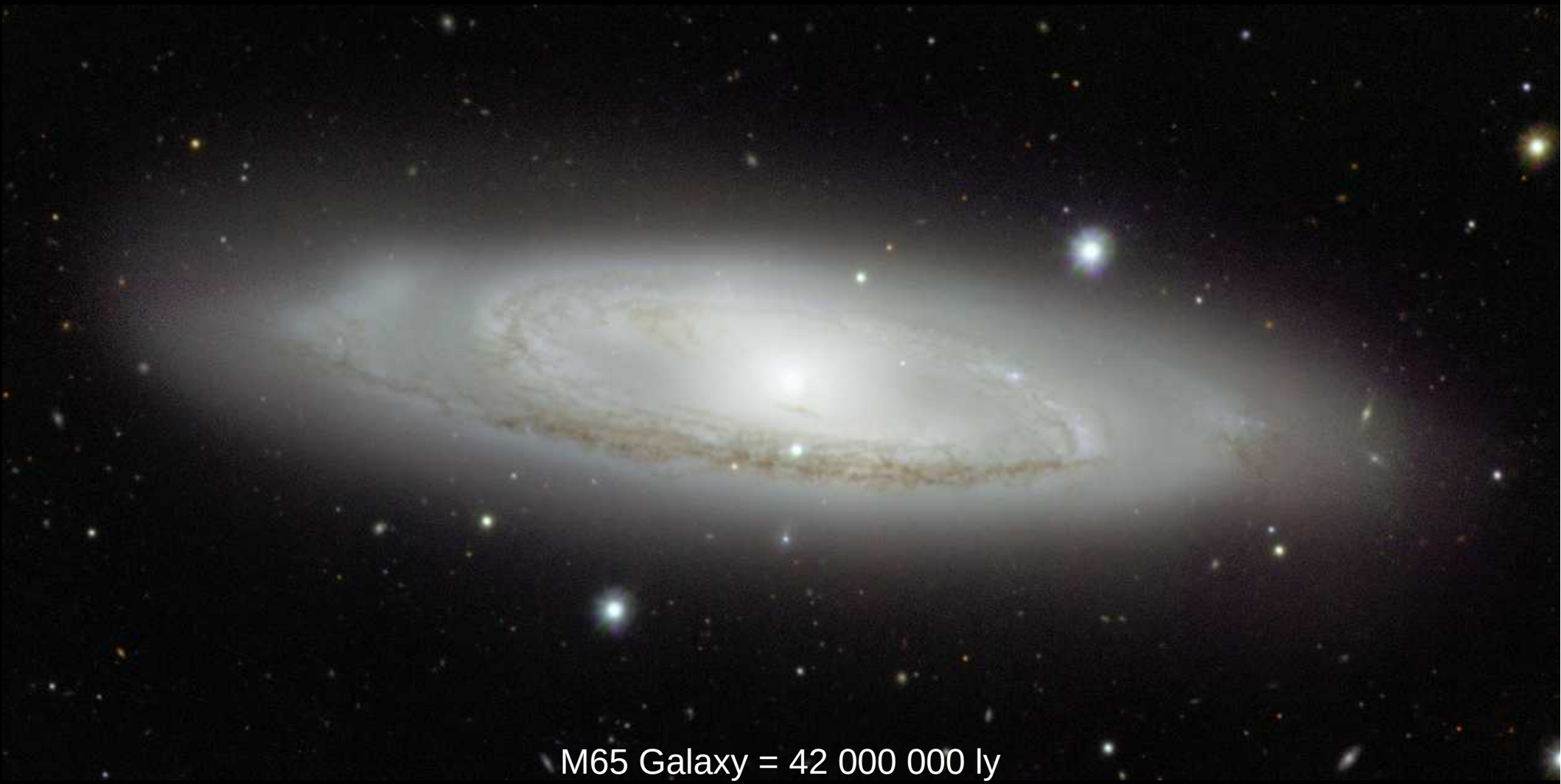


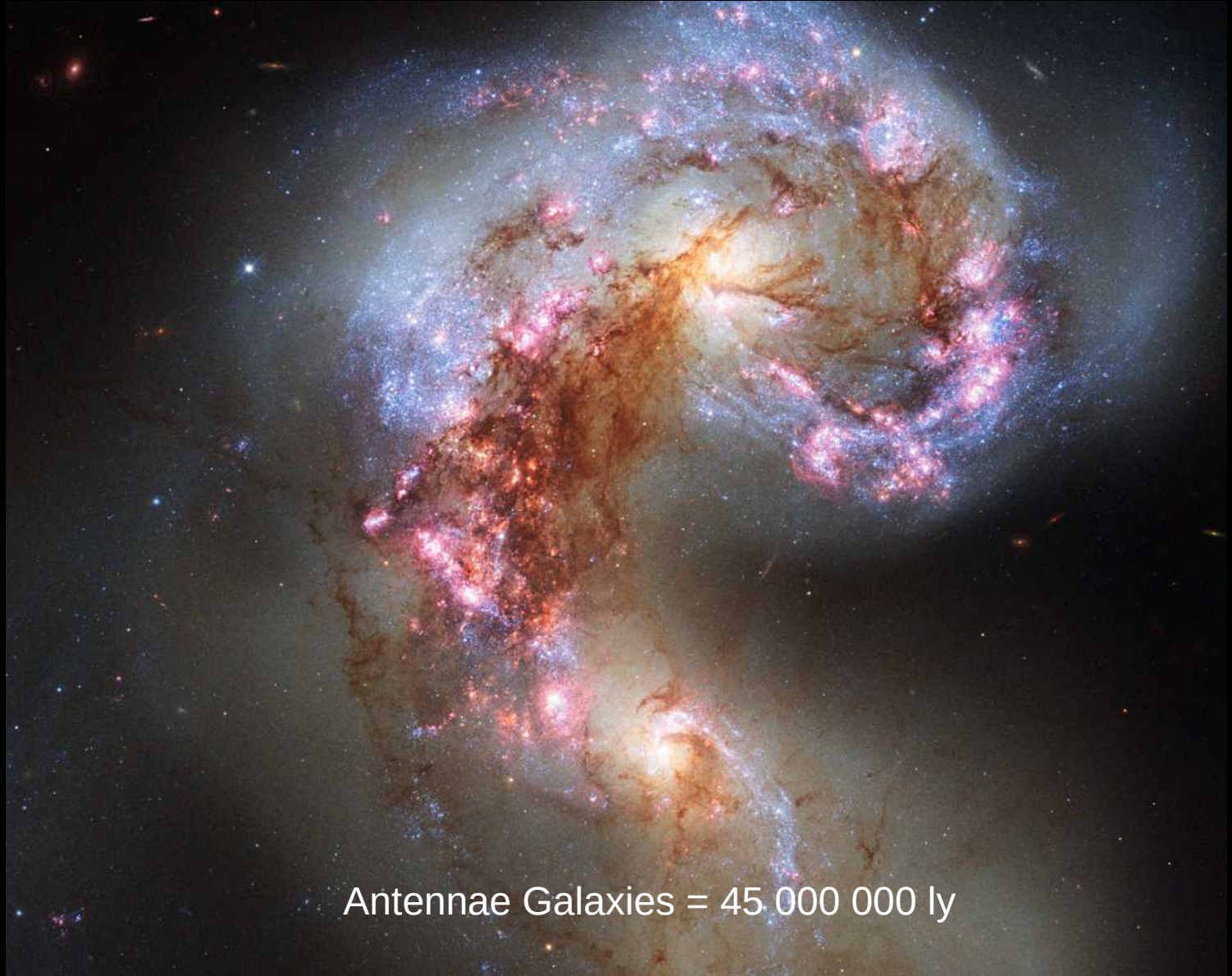

Spindle Galaxy = 32 000 000 ly

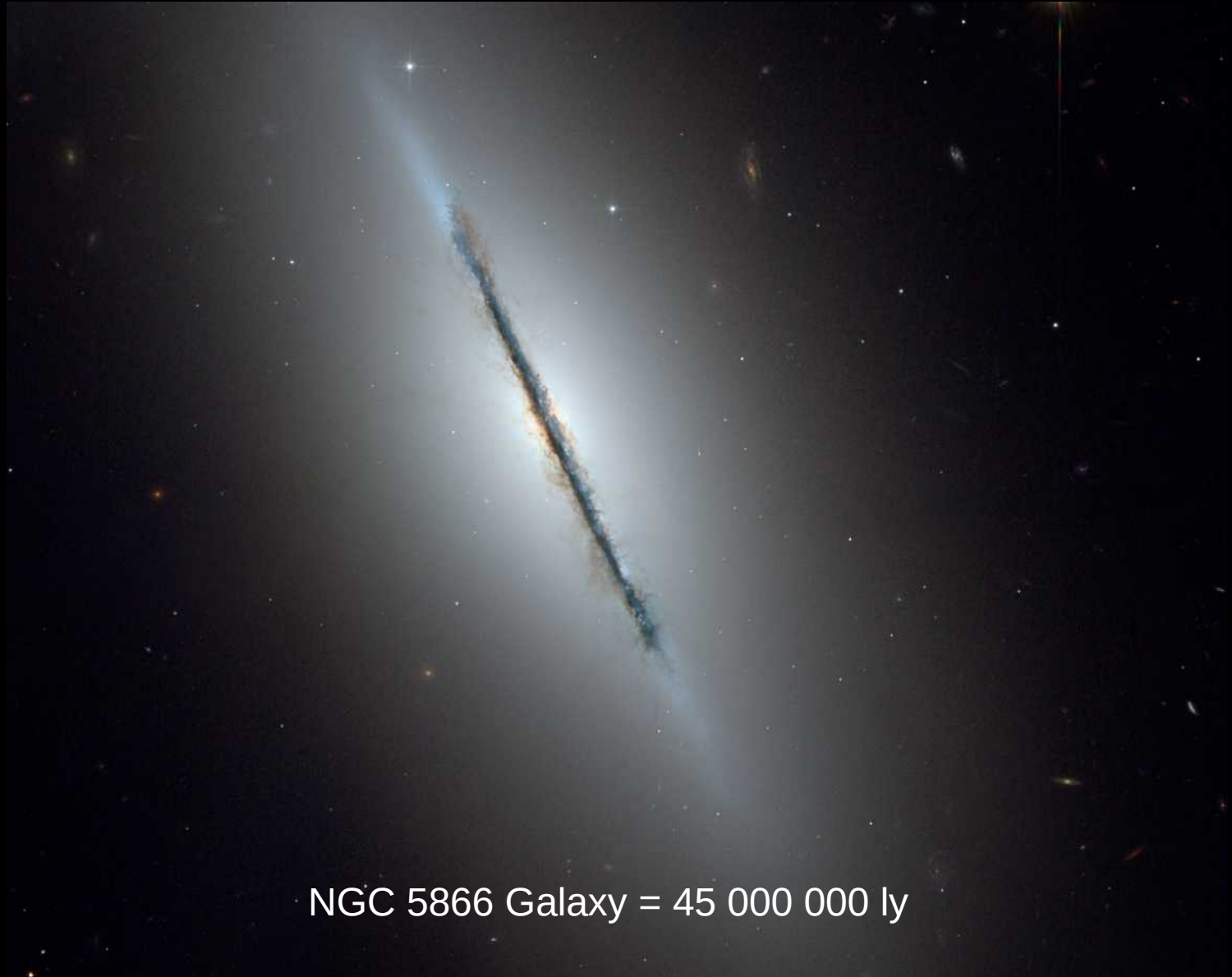


M96 Galaxy = 34 000 000 ly


M74 Galaxy = 36 000 000 ly

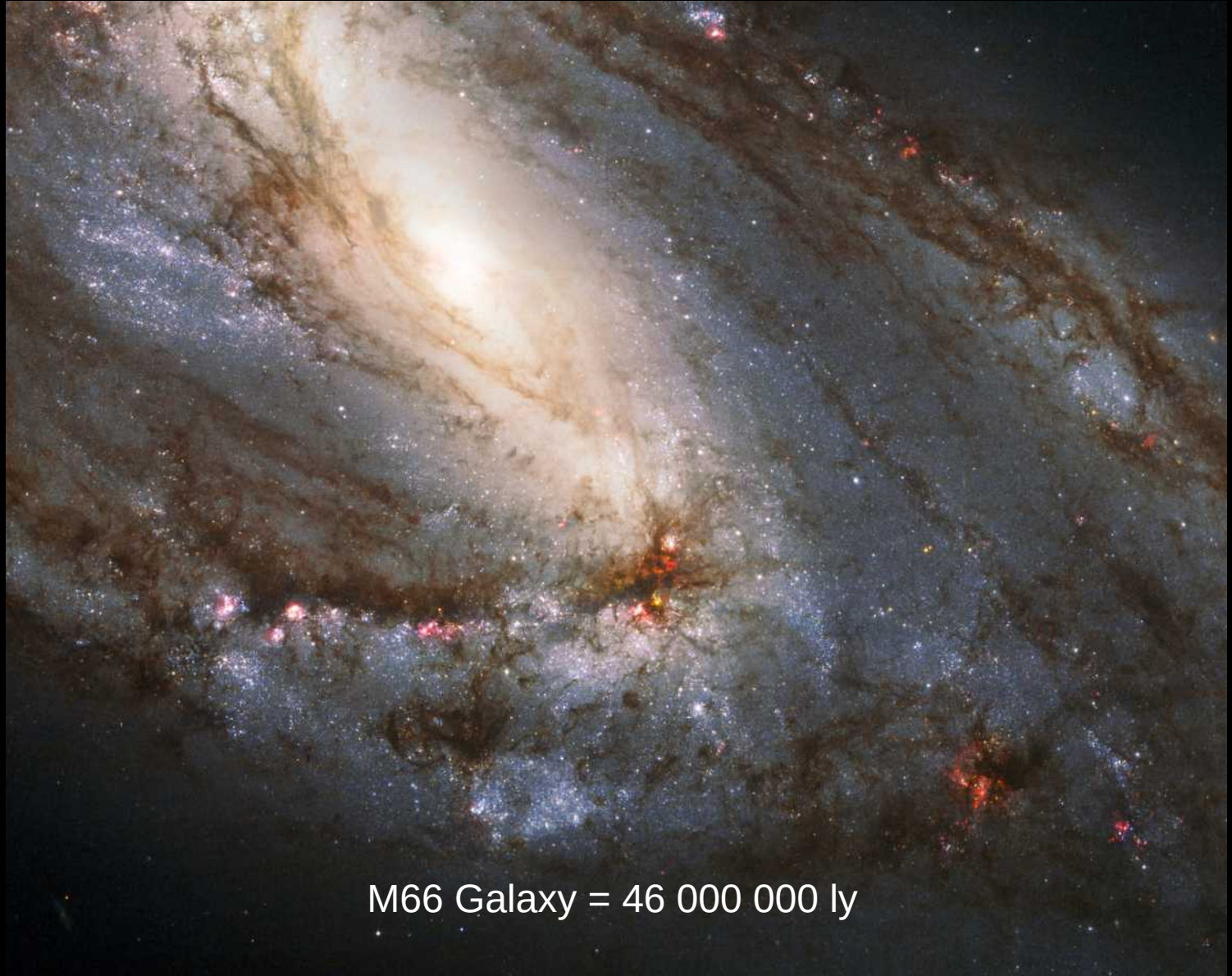

M65 Galaxy = 42 000 000 ly

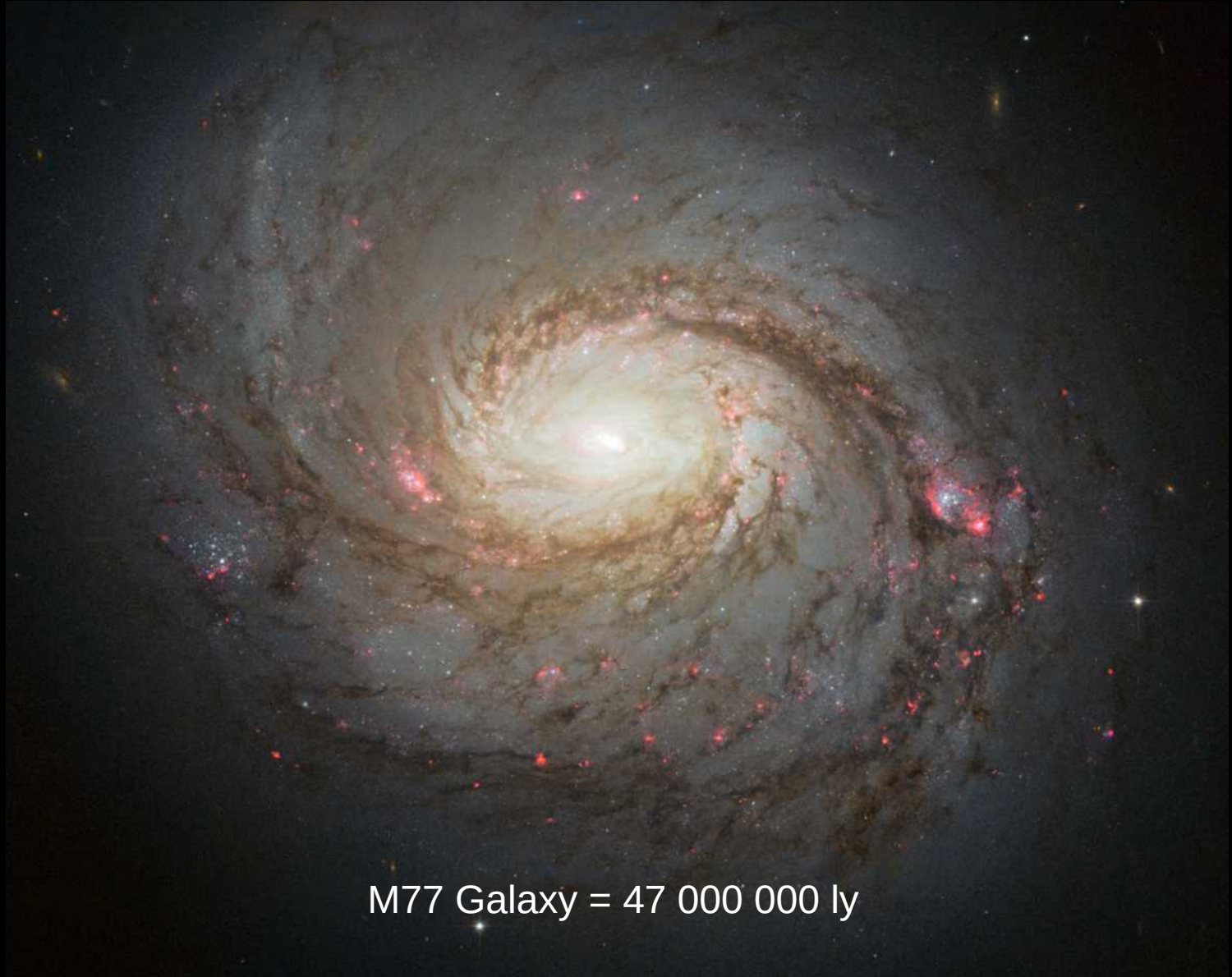

Antennae Galaxies = 45 000 000 ly



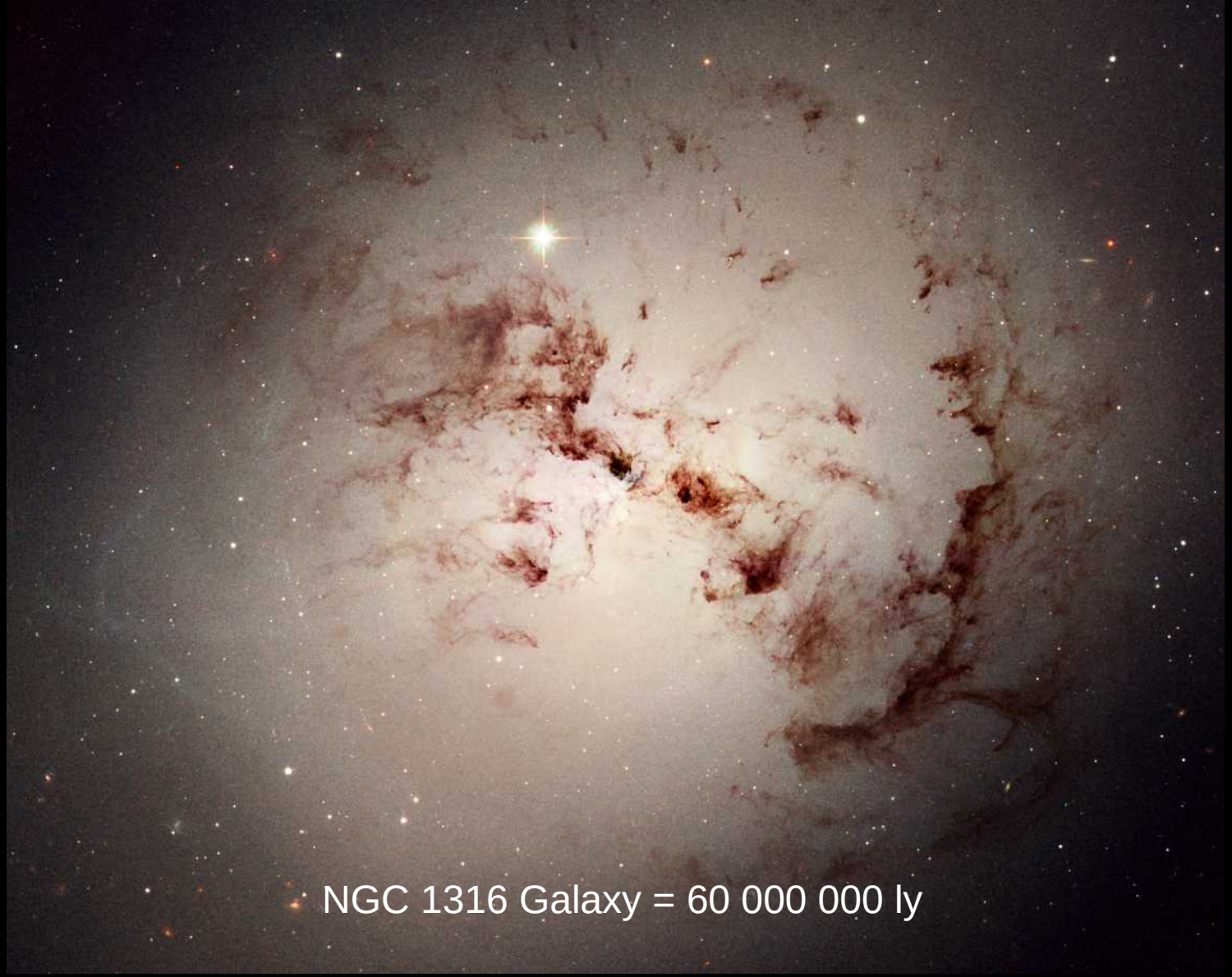
NGC 5866 Galaxy = 45 000 000 ly

M66 Galaxy = 46 000 000 ly

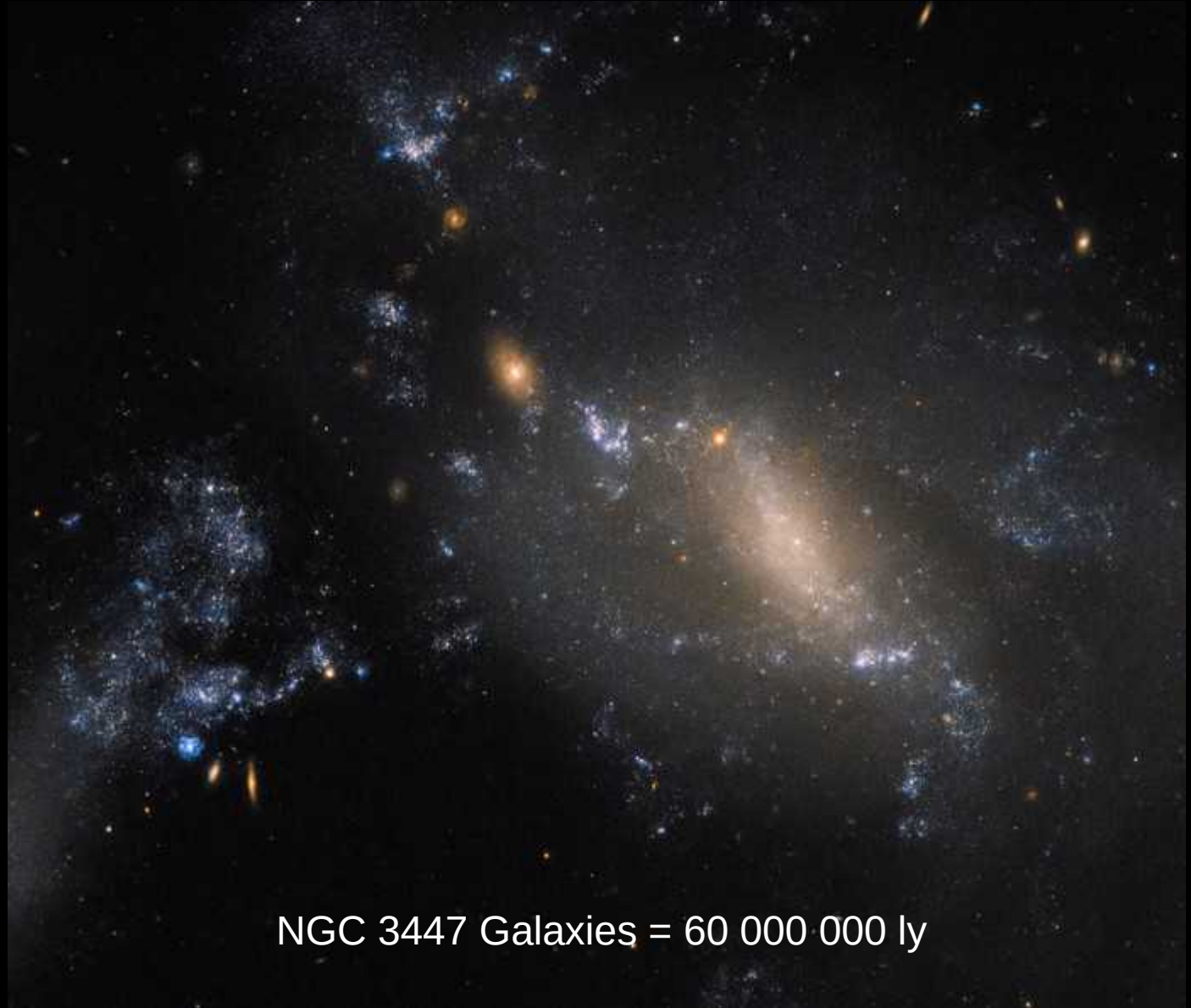

M66 Galaxy = 46 000 000 ly


M77 Galaxy = 47 000 000 ly

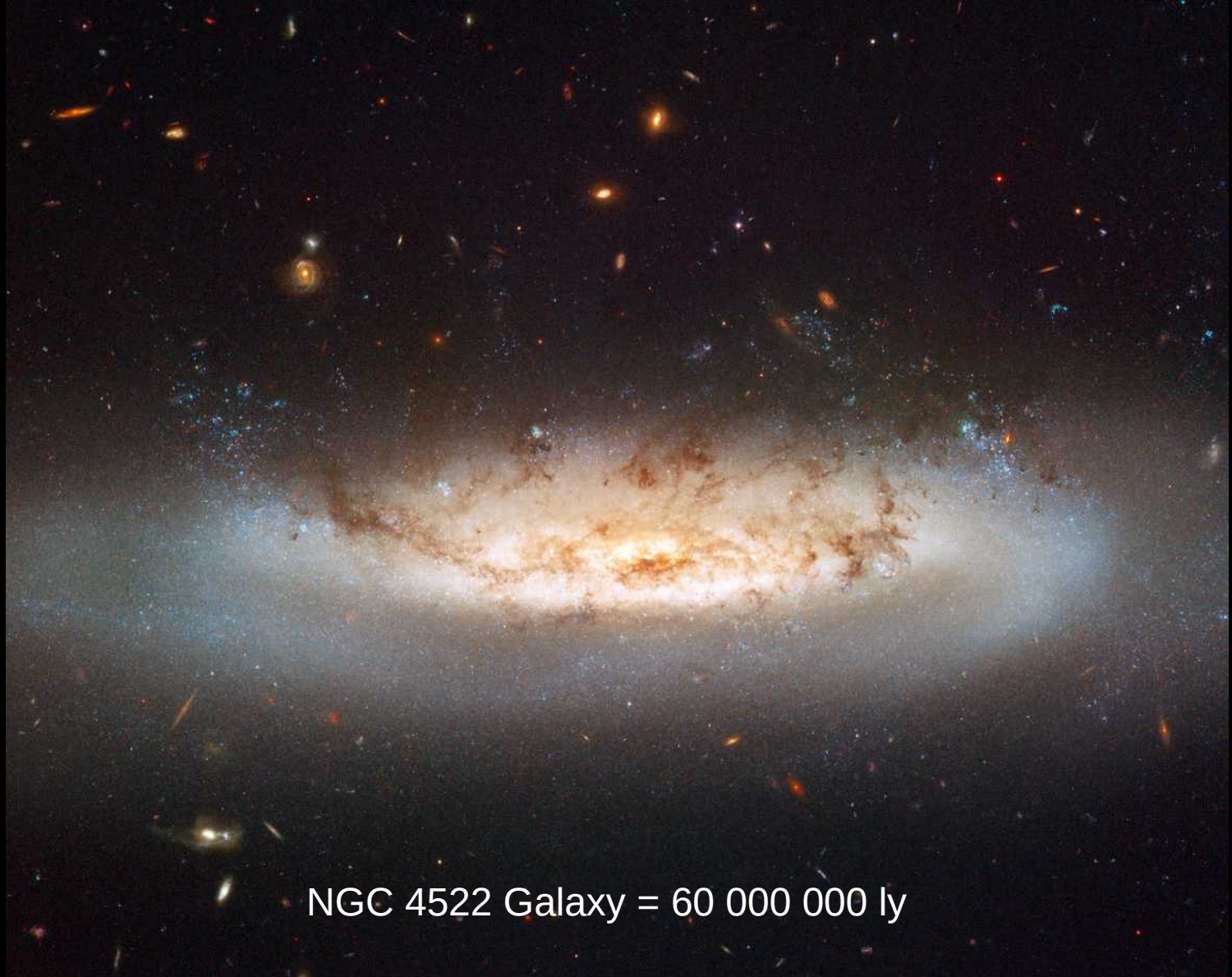

NGC 4526 Galaxy = 55 000 000 ly

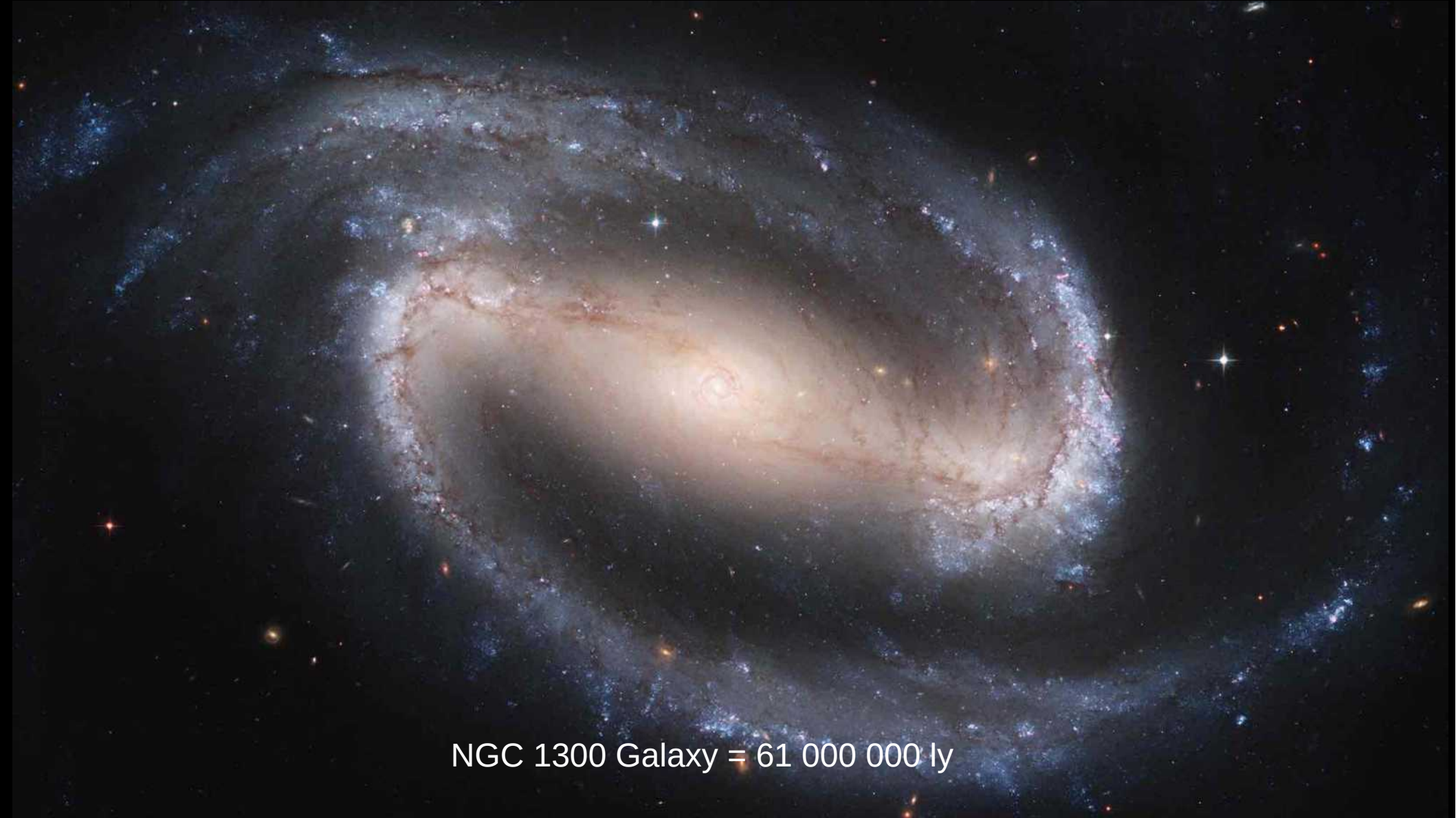

NGC 1316 Galaxy = 60 000 000 ly


NGC 1672 Galaxy = 60 000 000 ly



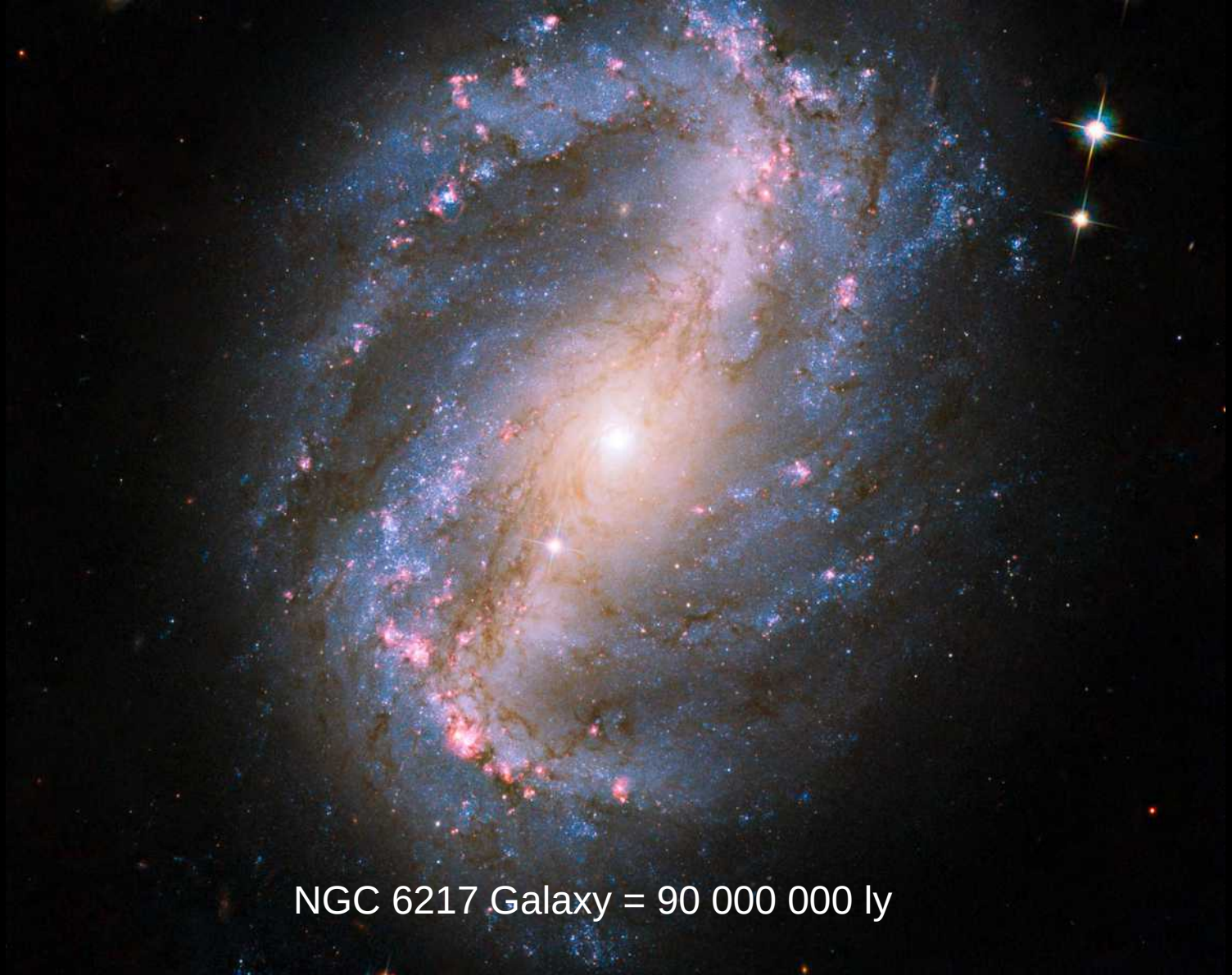
NGC 3447 Galaxies = 60 000 000 ly


NGC 4522 Galaxy = 60 000 000 ly

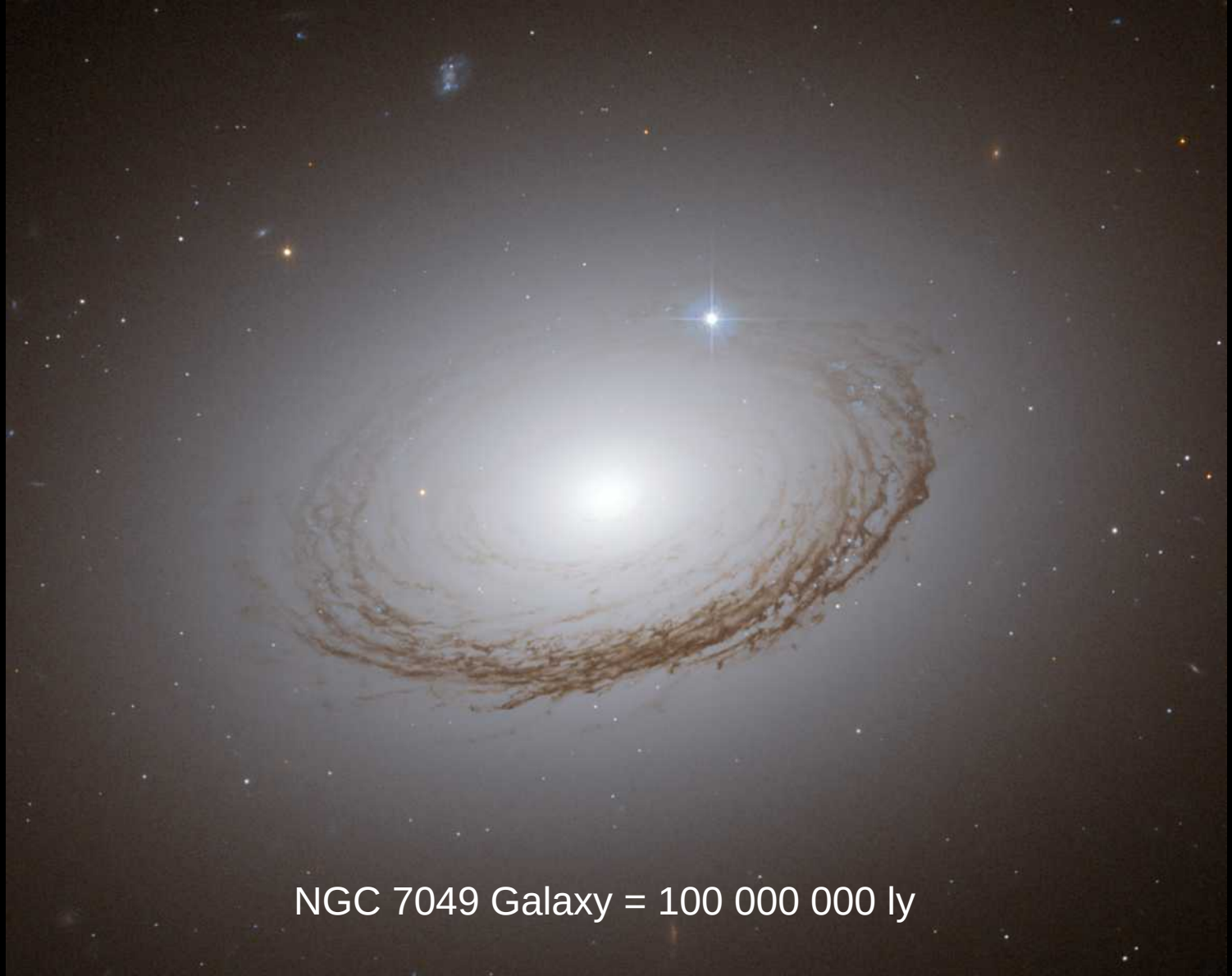

NGC 1300 Galaxy = 61 000 000 ly

NGC 2207 & IC 2163 Galaxies = 85 000 000 ly

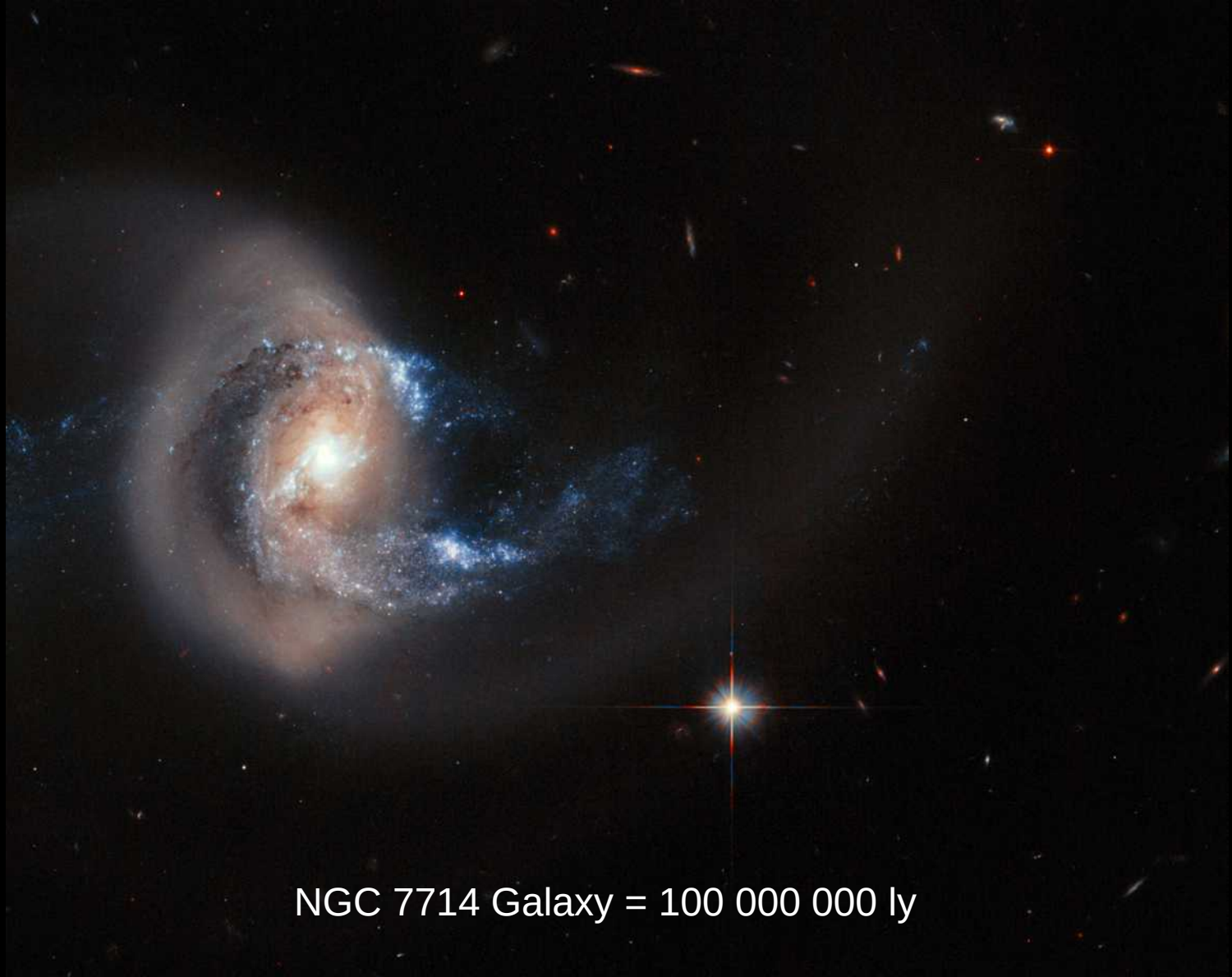
NGC 524 Galaxy = 90 000 000 ly



NGC 6217 Galaxy = 90 000 000 ly

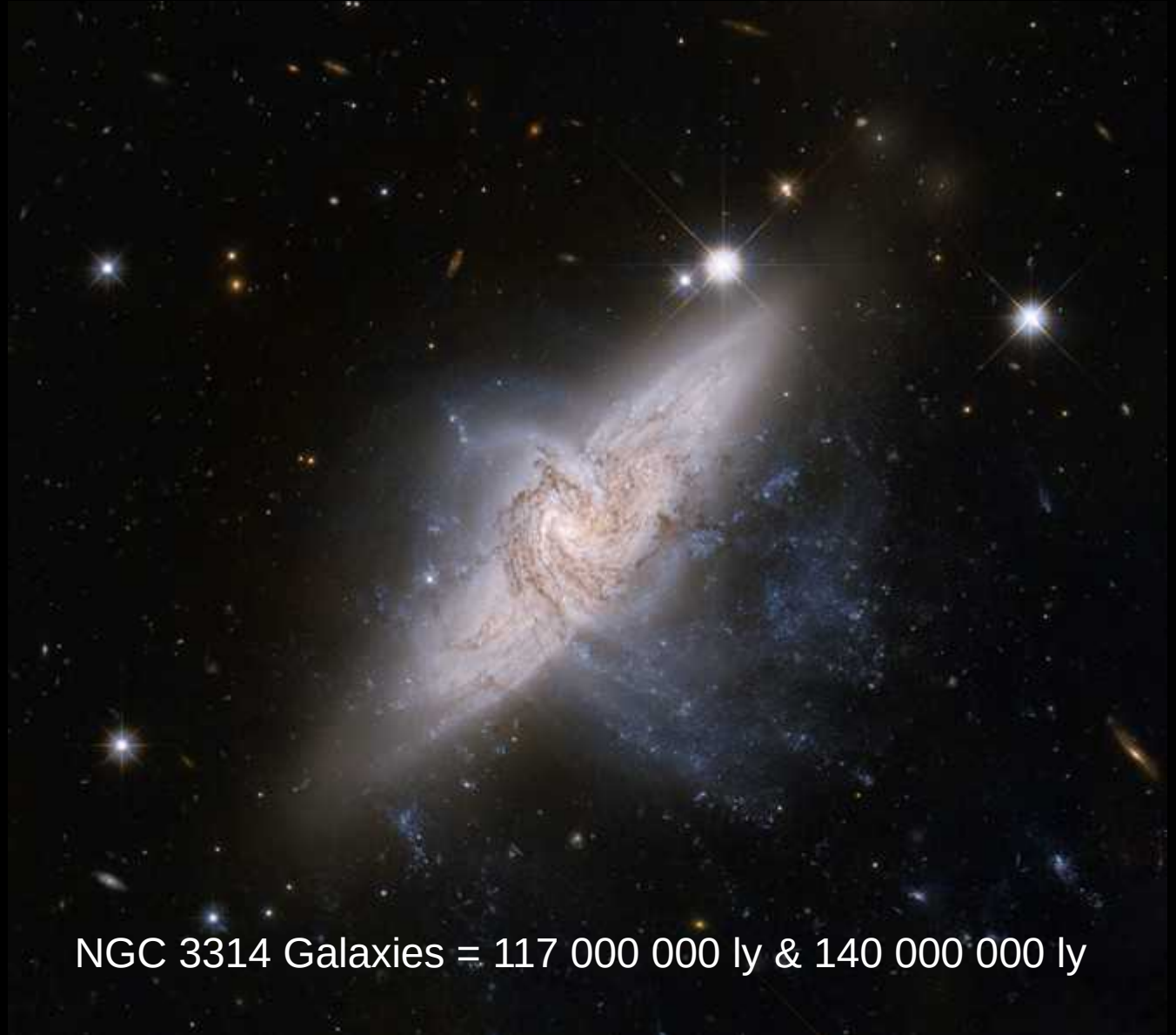


NGC 7049 Galaxy = 100 000 000 ly

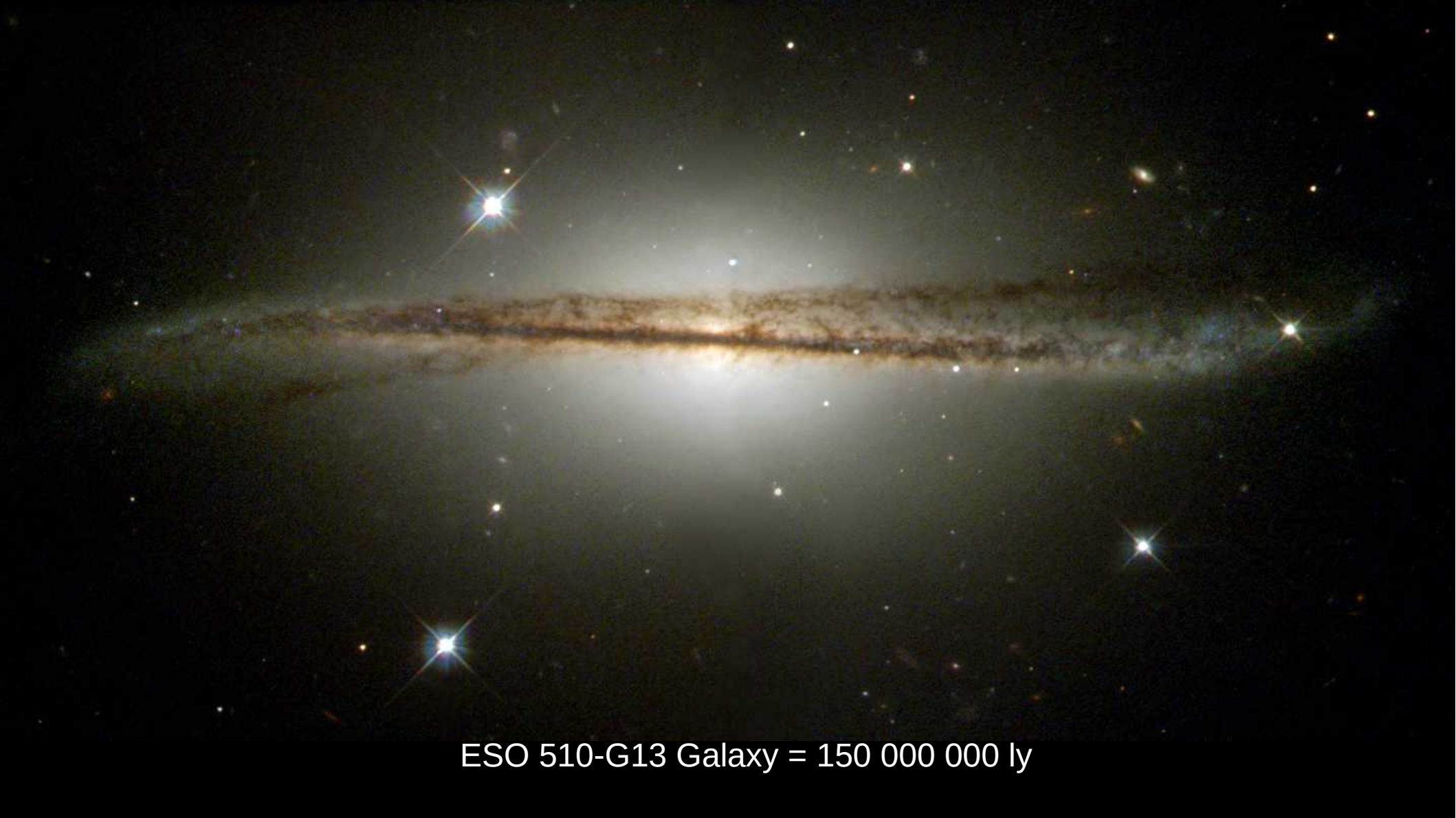


NGC 7714 Galaxy = 100 000 000 ly

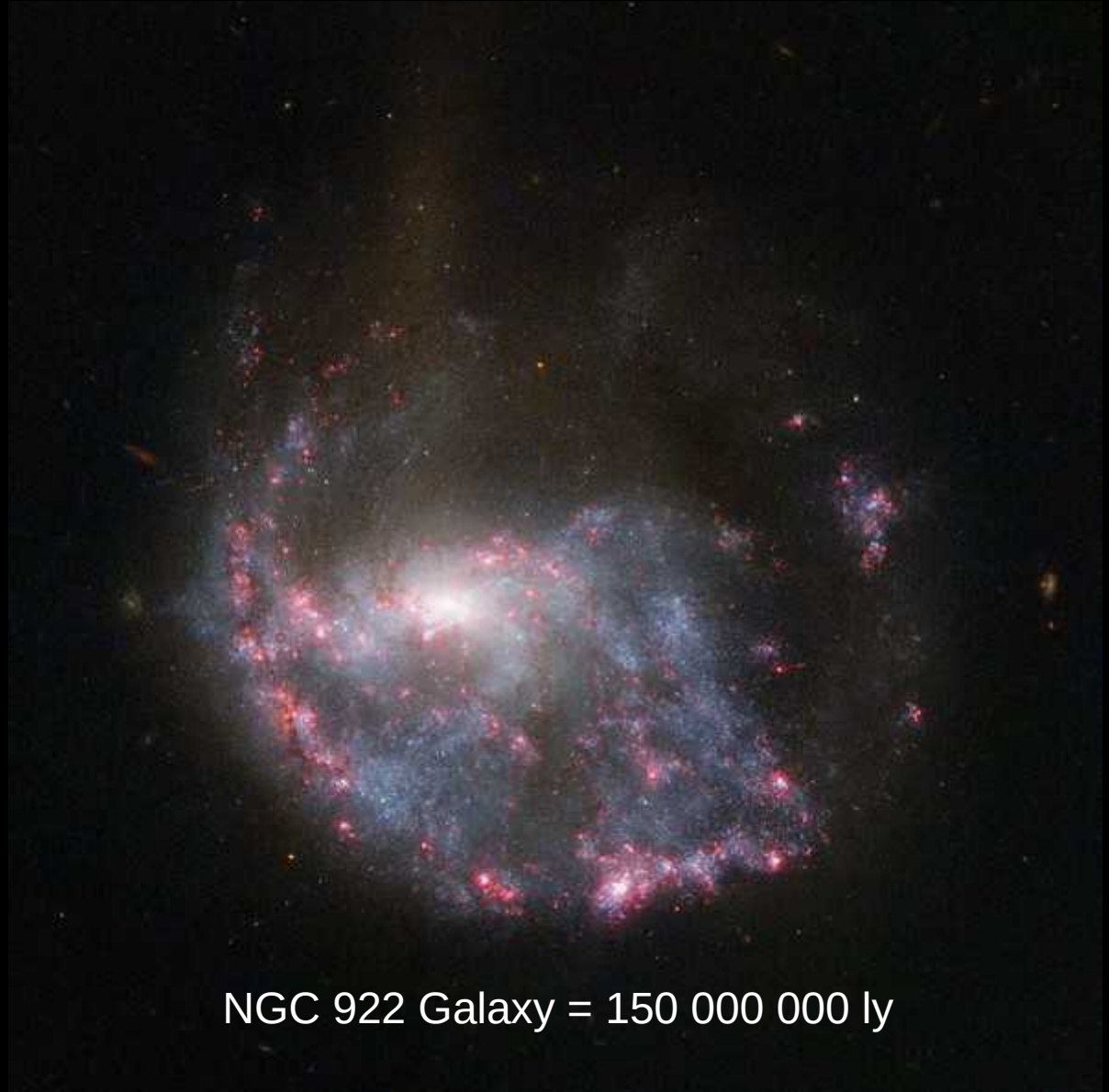
Arp 271 Galaxies = 127 000 000 ly



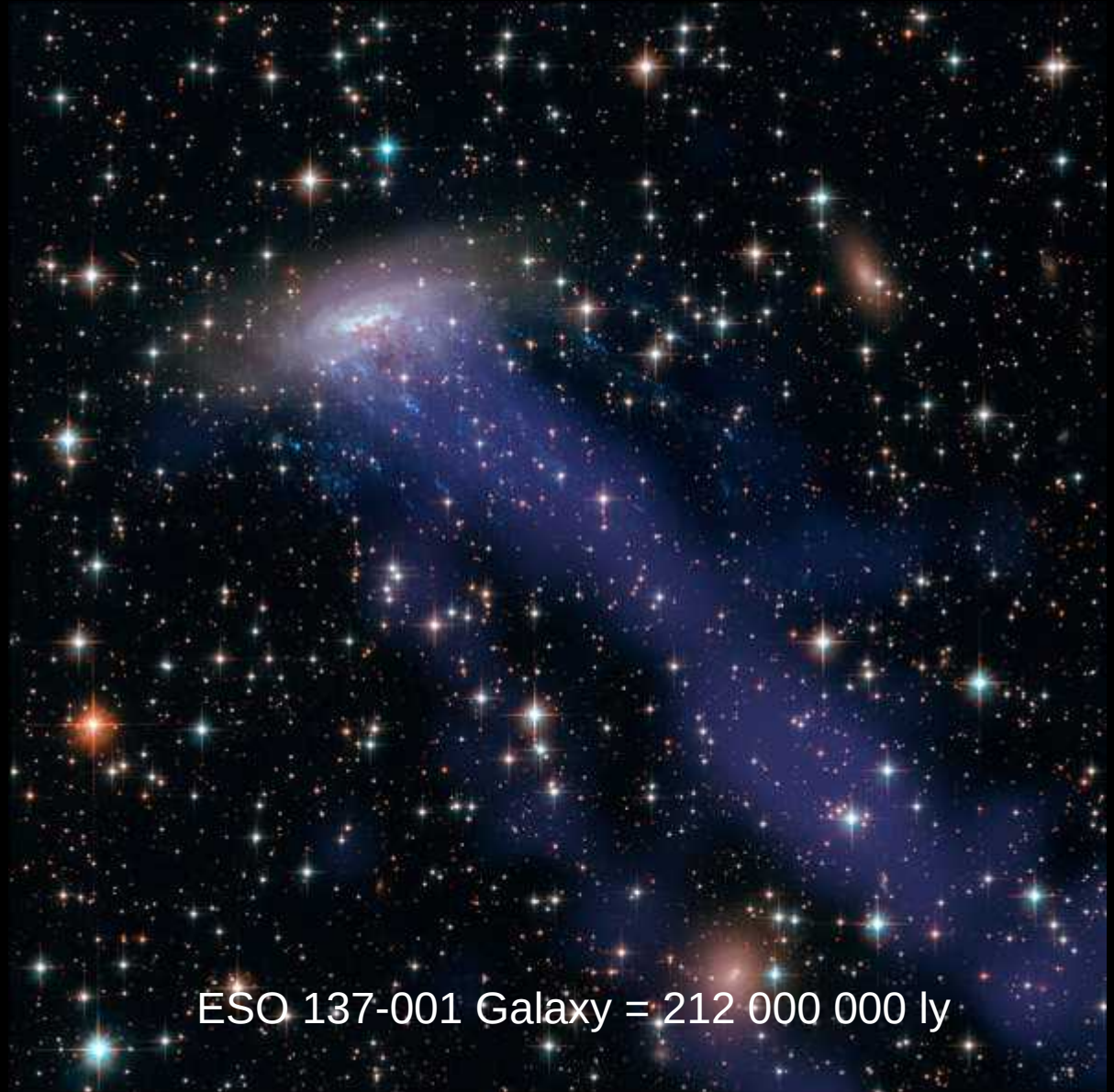
NGC 3314 Galaxies = 117 000 000 ly & 140 000 000 ly

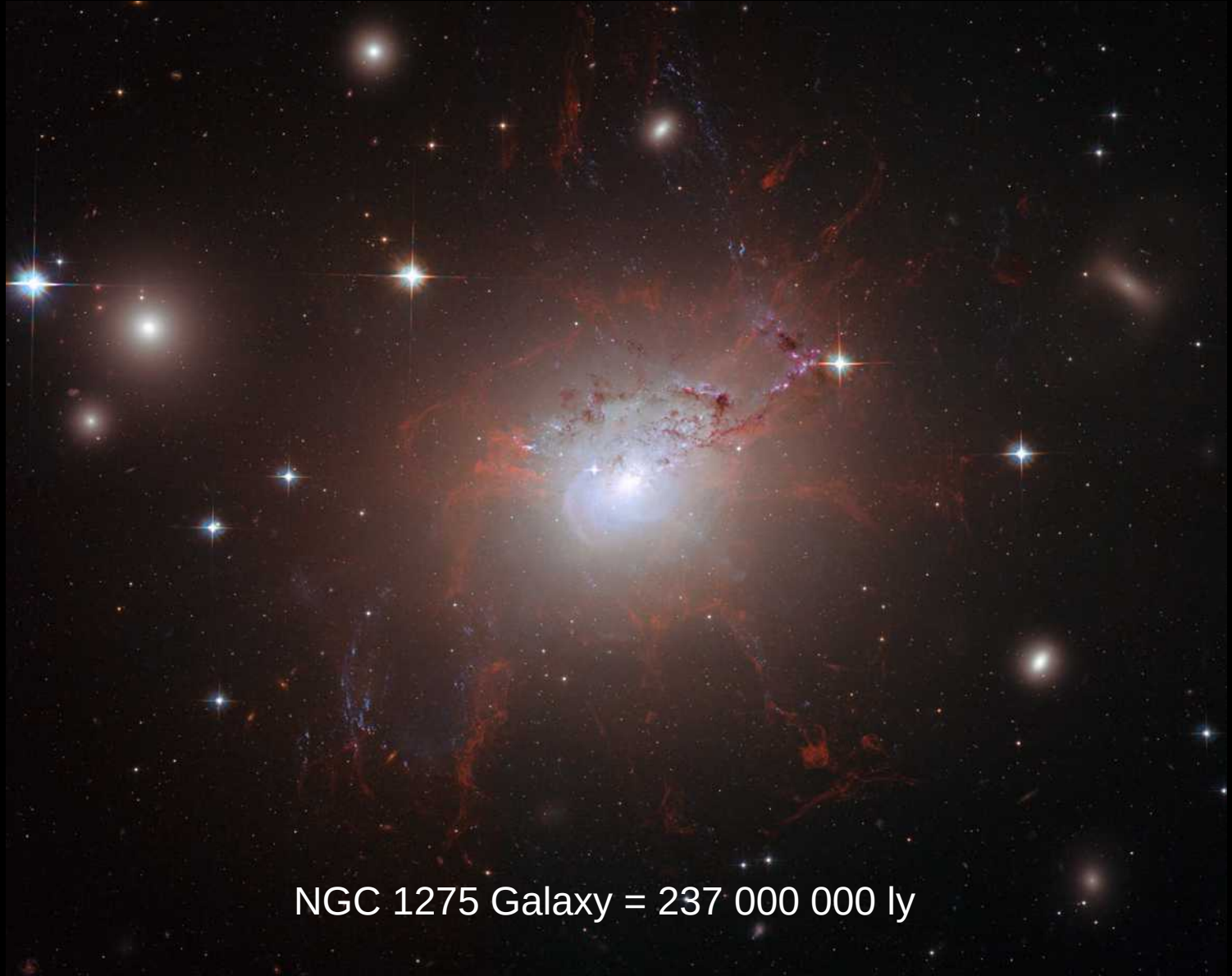


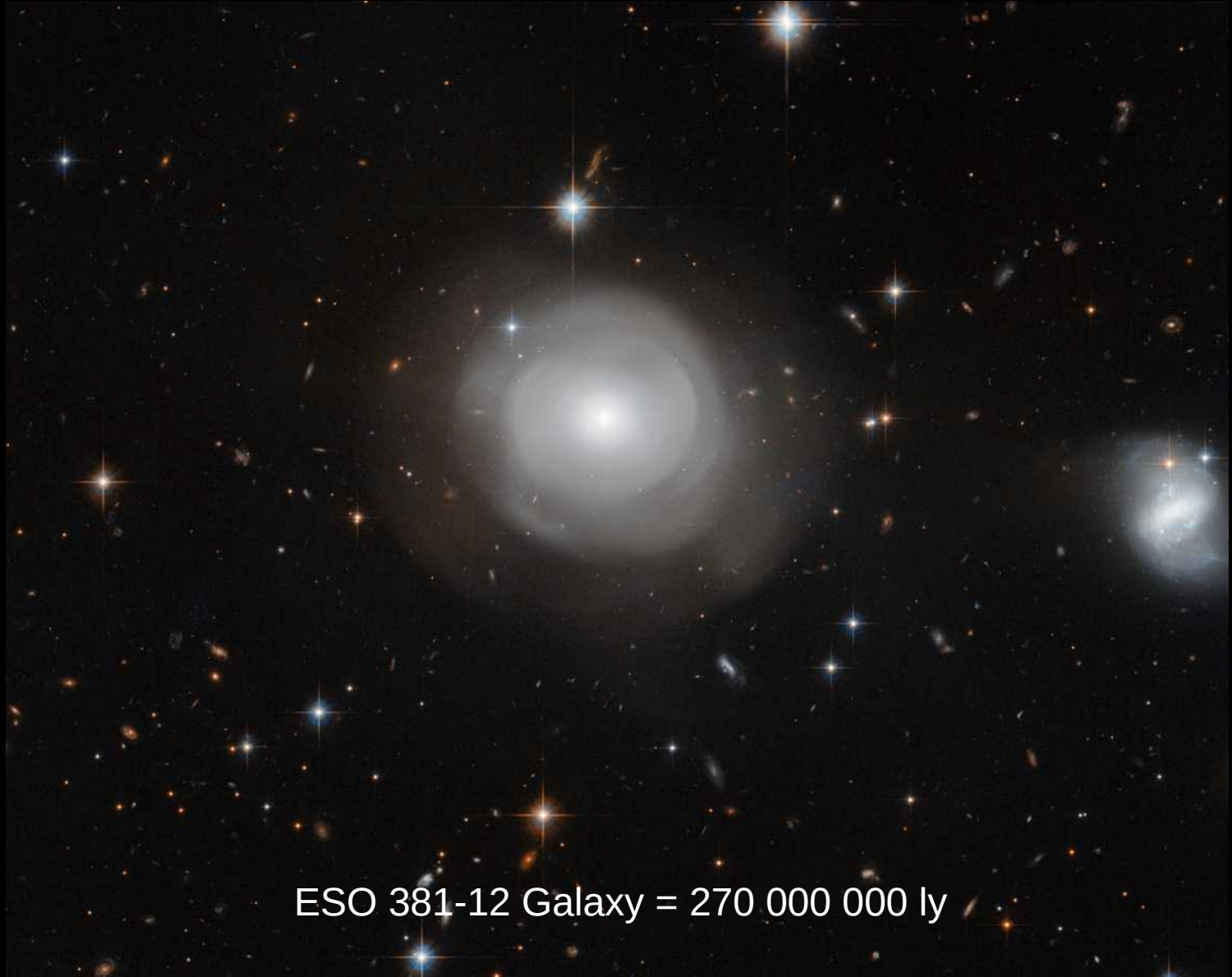
ESO 510-G13 Galaxy = 150 000 000 ly



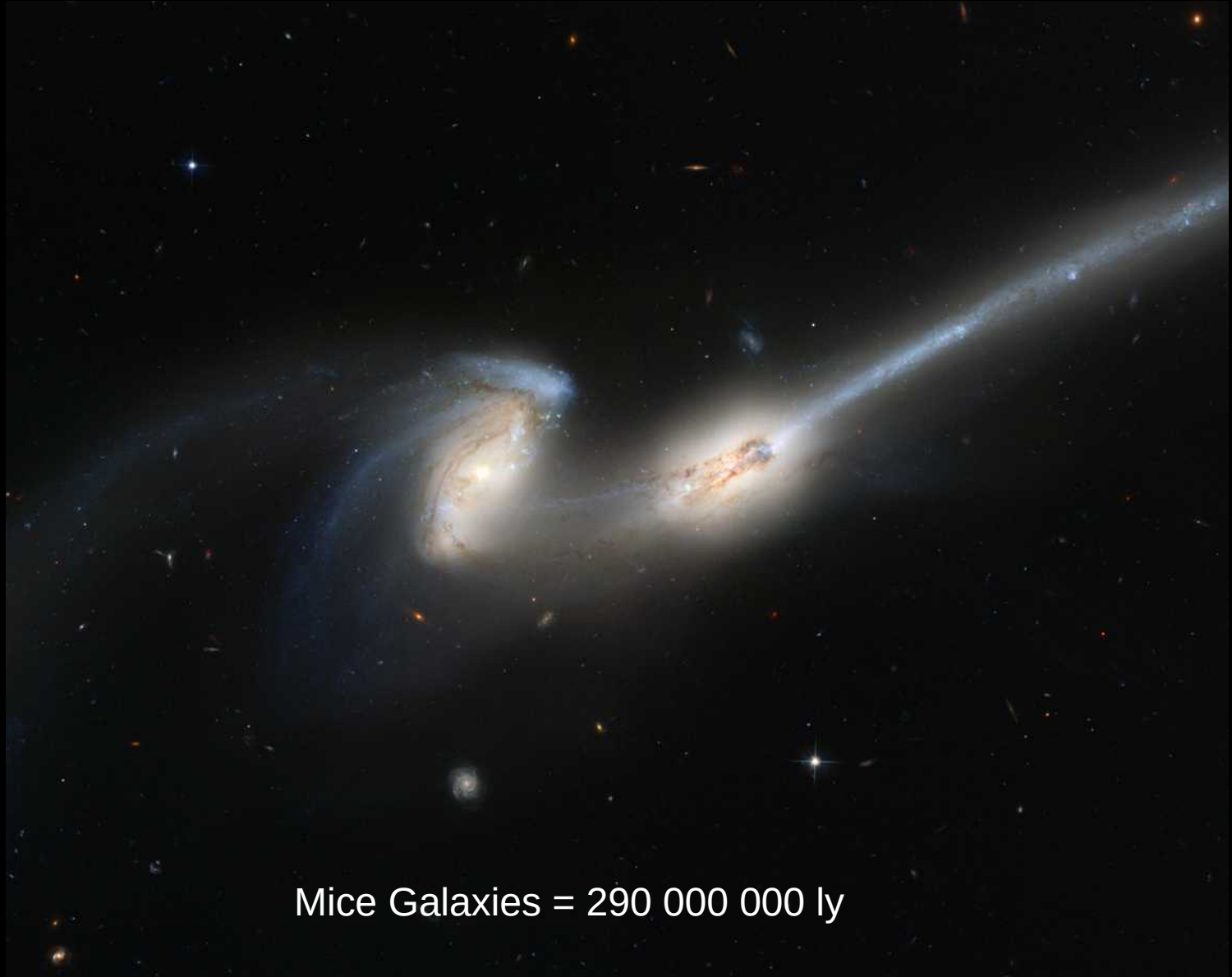
NGC 922 Galaxy = 150 000 000 ly


ESO 137-001 Galaxy = 212 000 000 ly

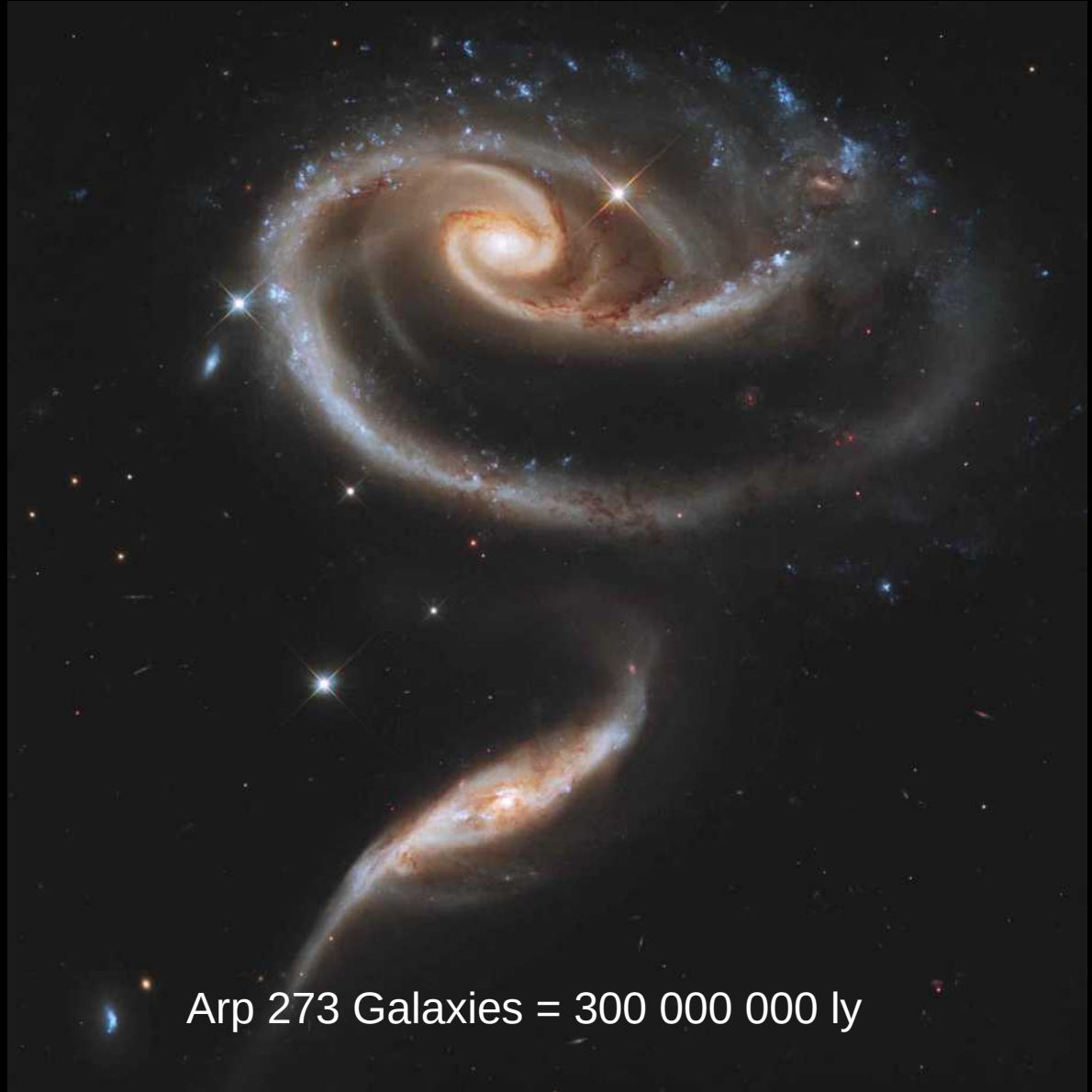

NGC 1275 Galaxy = 237 000 000 ly

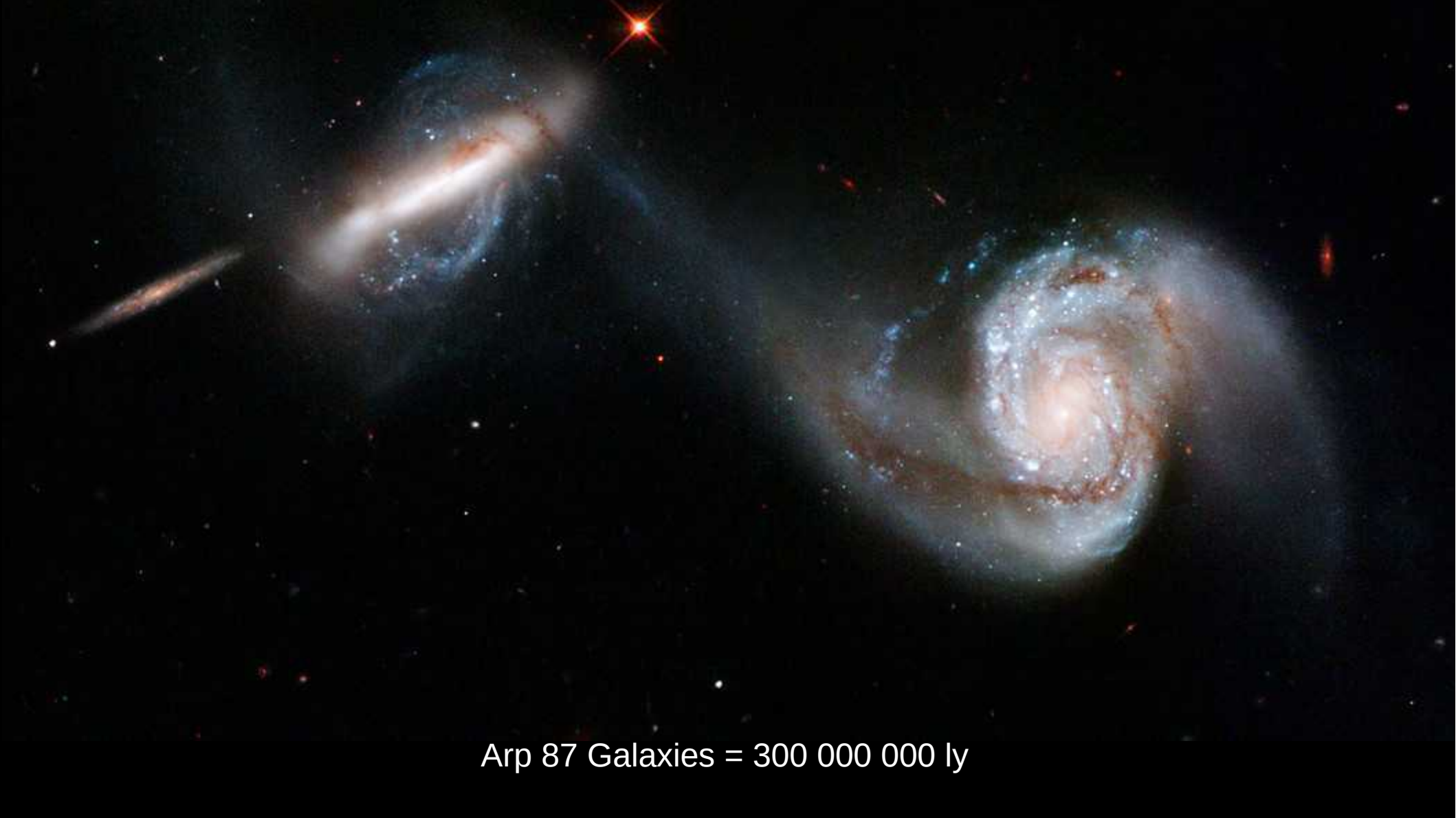

ESO 381-12 Galaxy = 270 000 000 ly

Stephan’s Quintet Galaxies = 270 000 000 ly

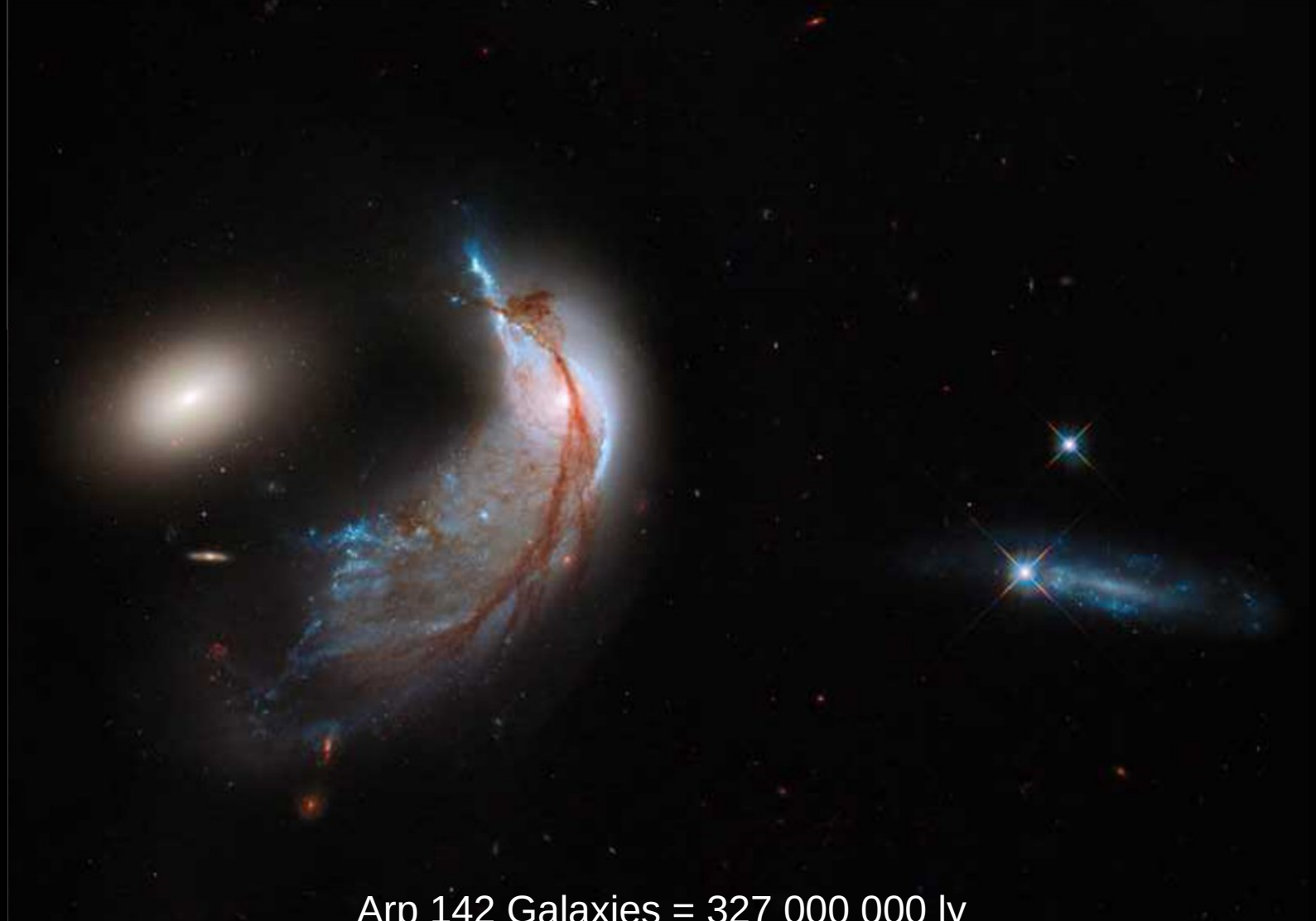


Mice Galaxies = 290 000 000 ly


Arp 273 Galaxies = 300 000 000 ly

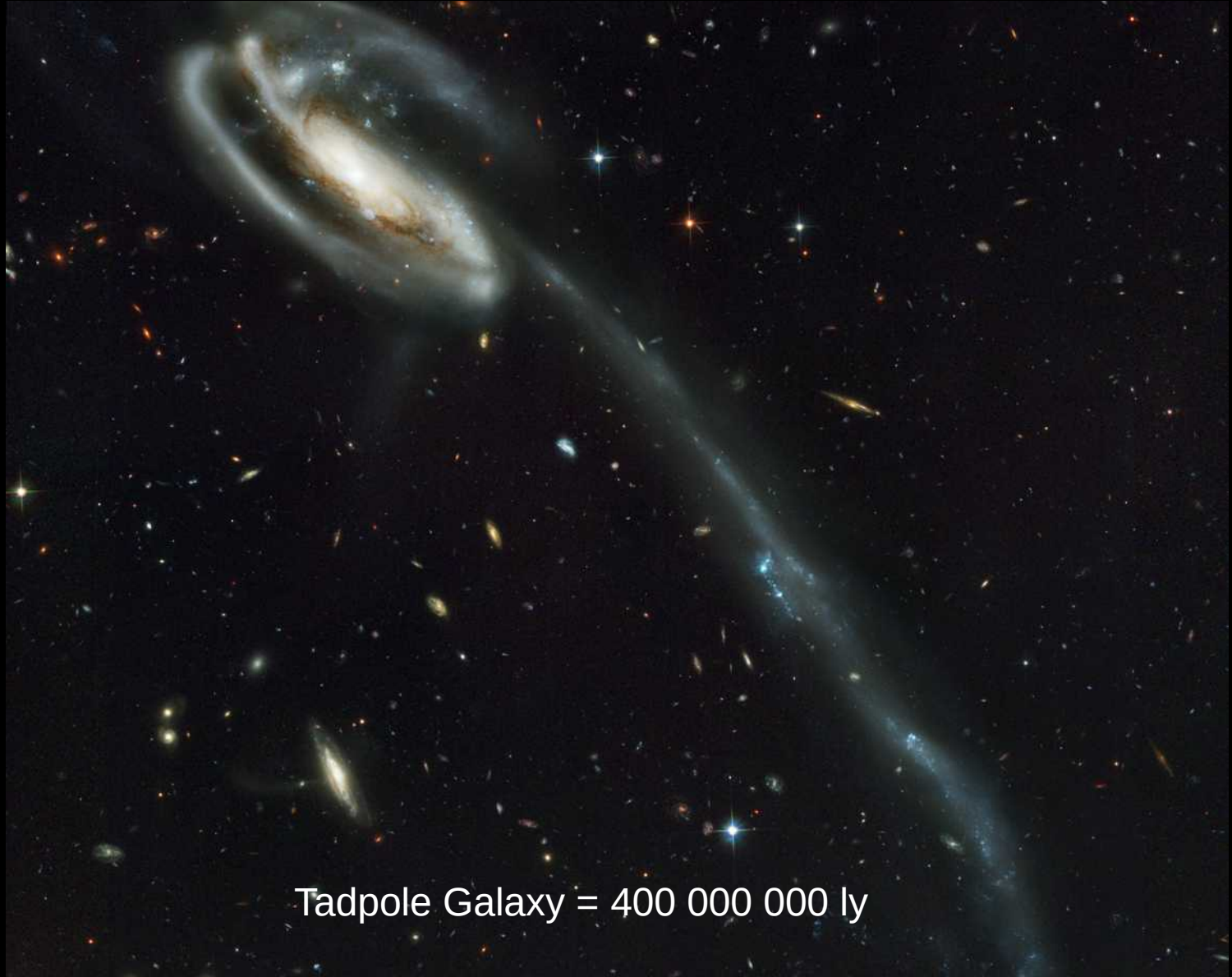


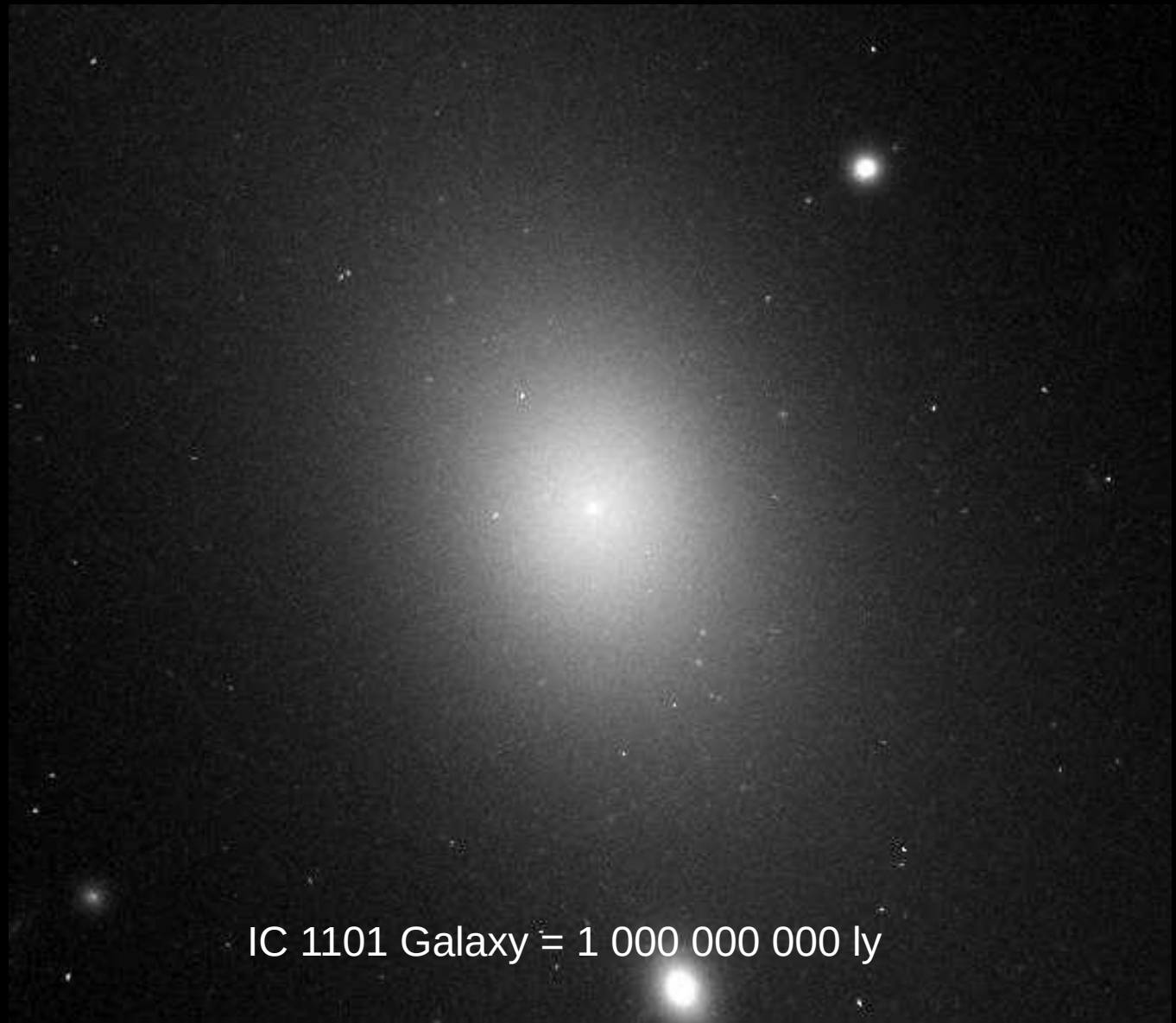
Arp 87 Galaxies = 300 000 000 ly



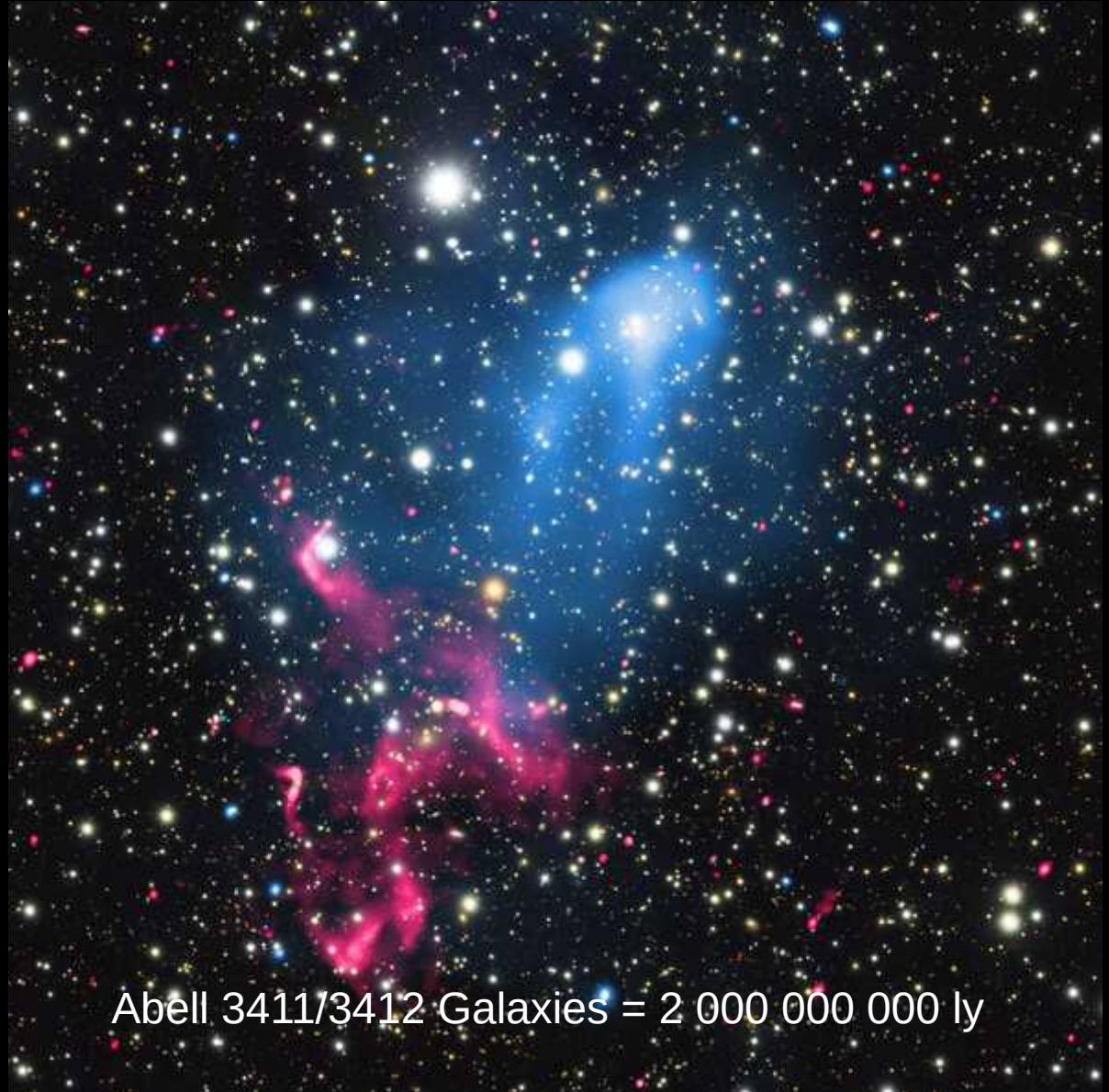
Arp 142 Galaxies = 327 000 000 ly

UGC 12591 Galaxy = 400 000 000 ly

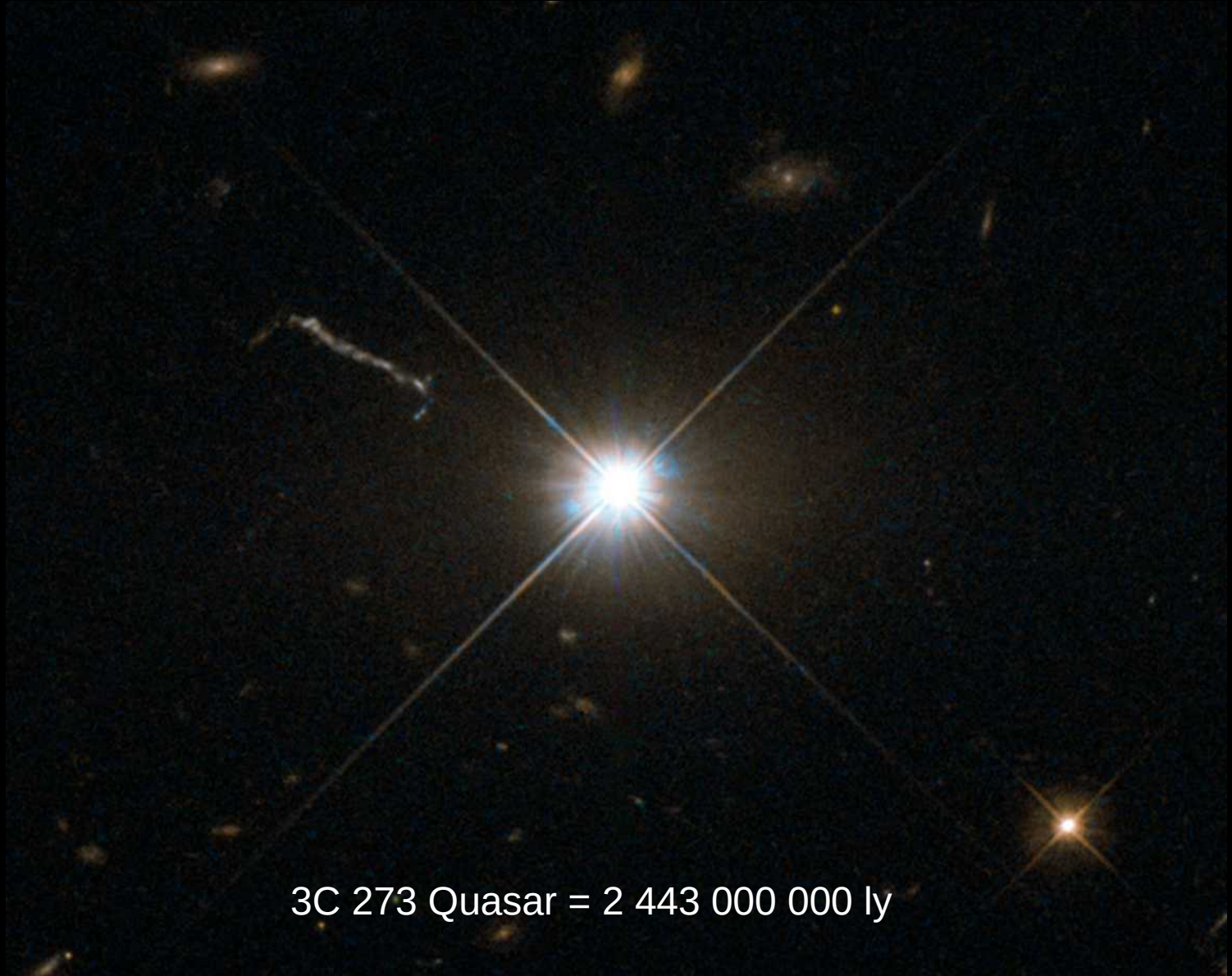

Tadpole Galaxy = 400 000 000 ly


IC 1101 Galaxy = 1 000 000 000 ly

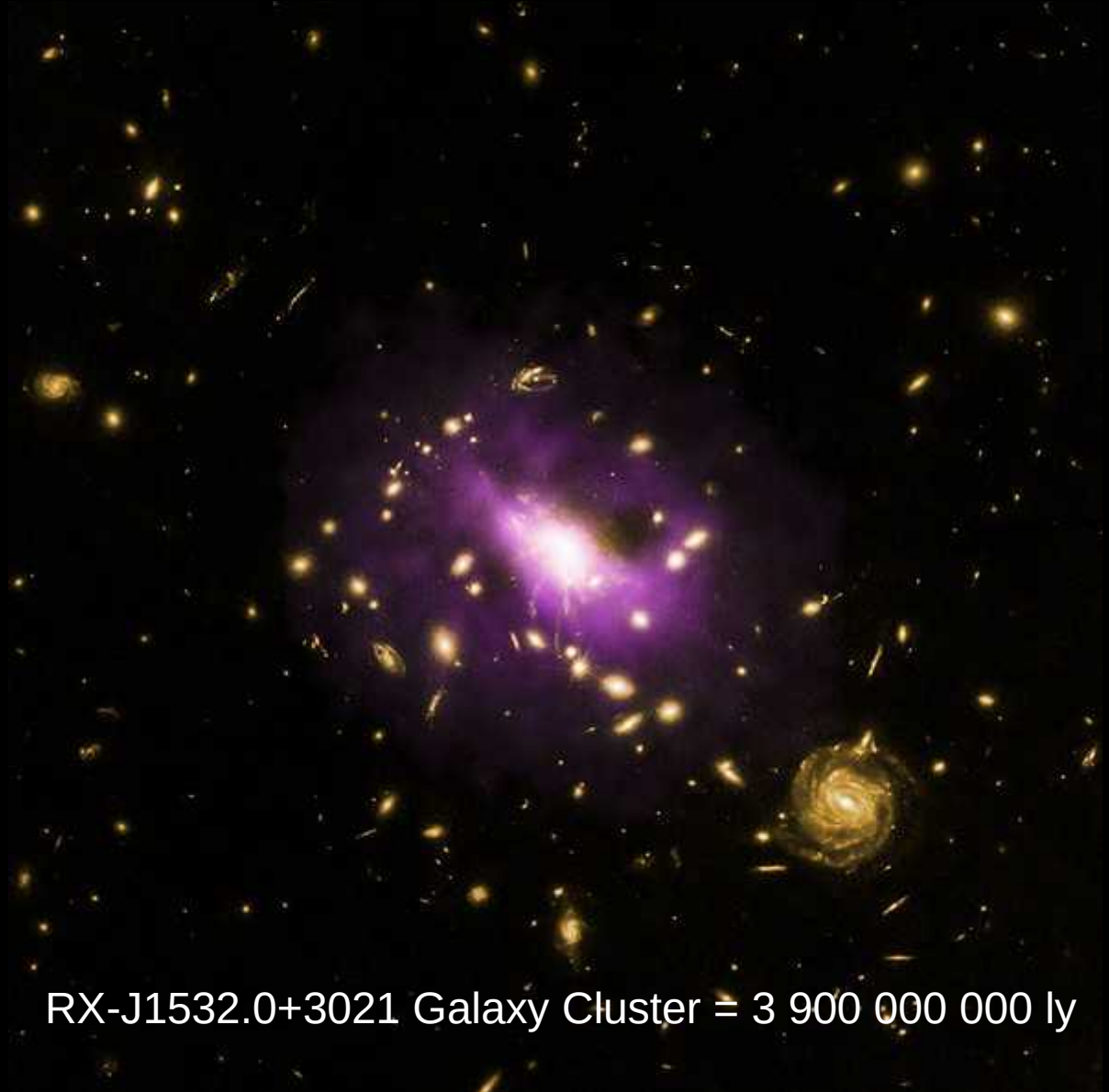

Abell 520 Galaxy Cluster = 2 000 000 000 ly



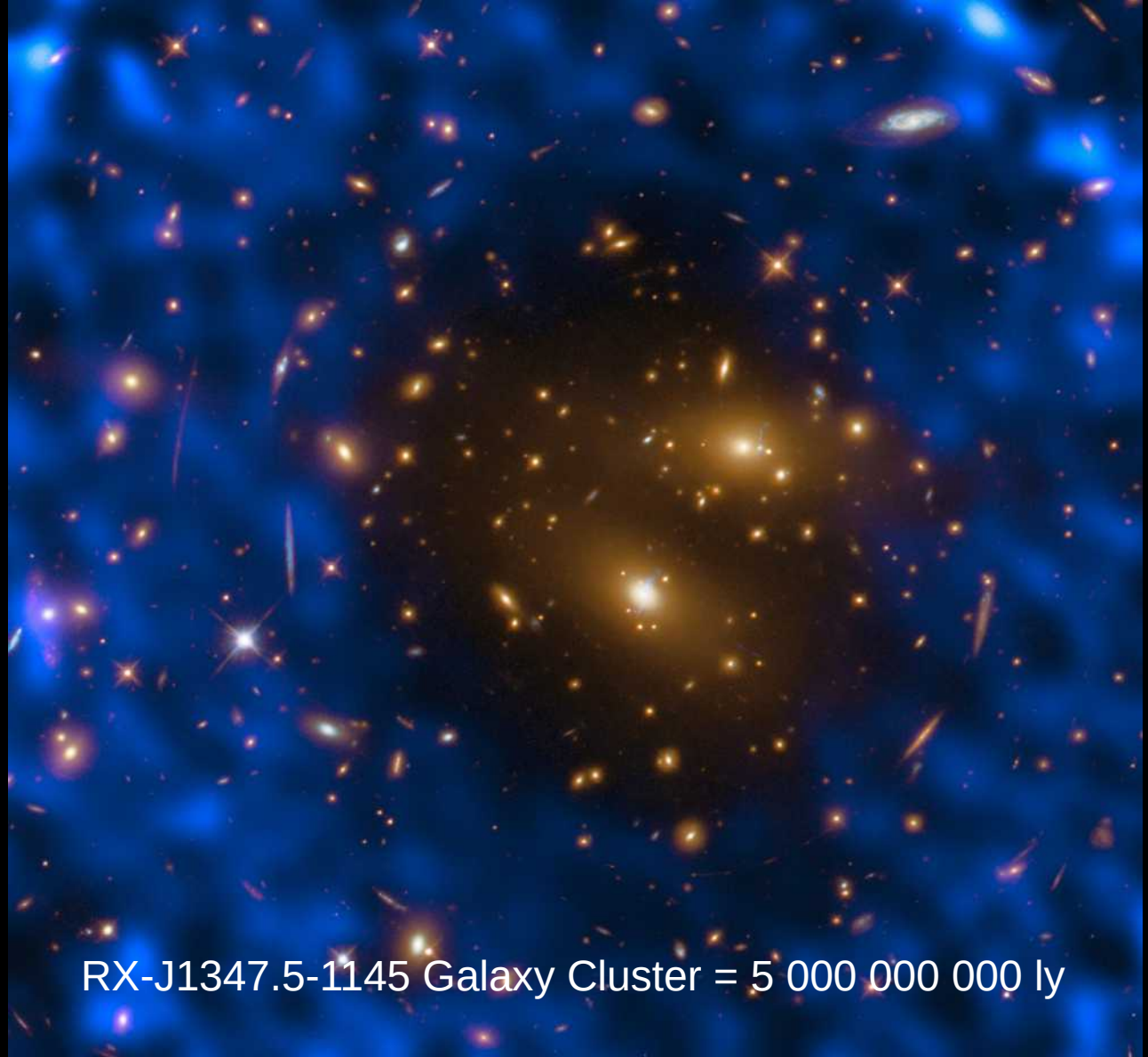
Abell 3411/3412 Galaxies = 2 000 000 000 ly



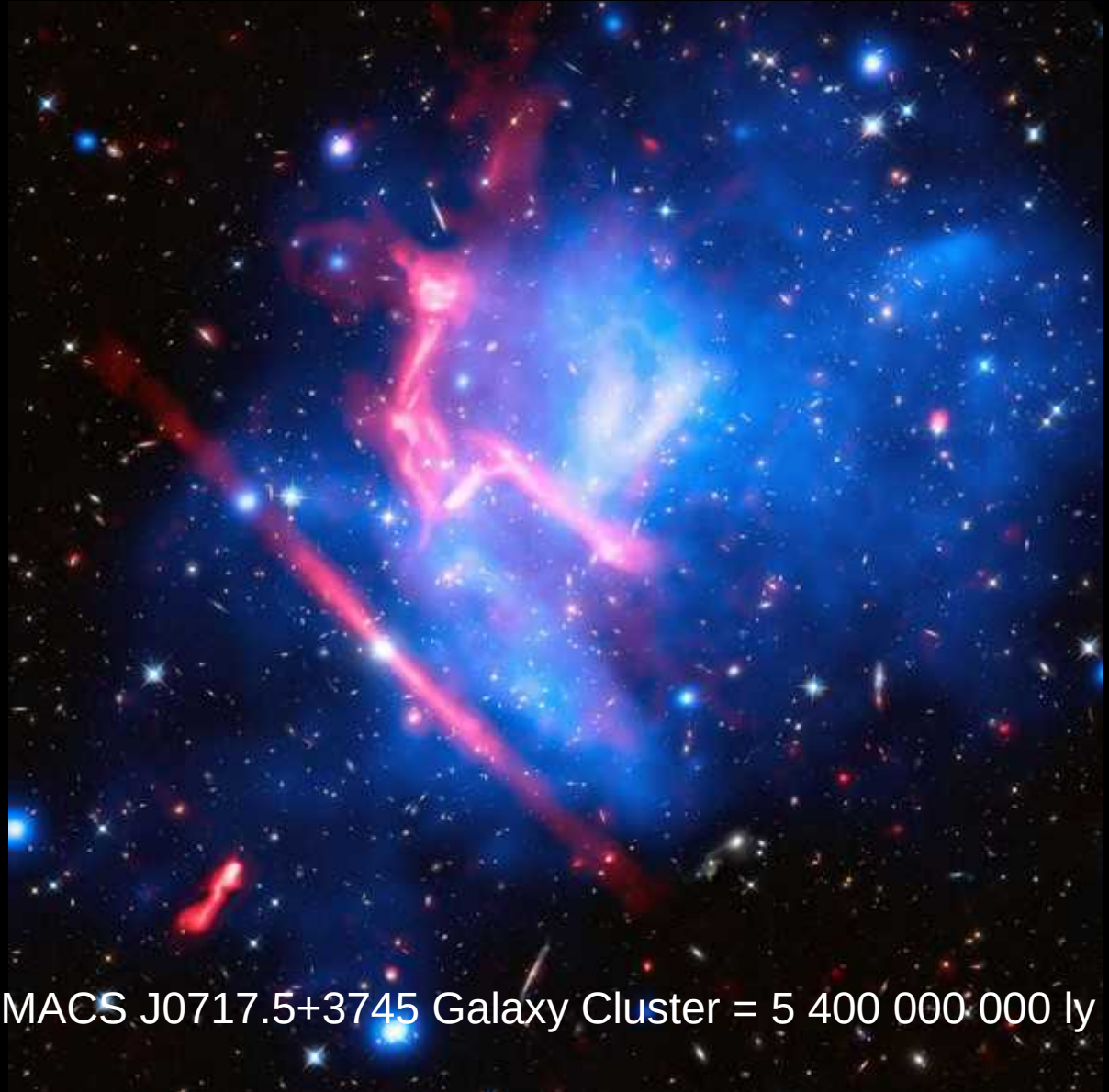
3C 273 Quasar = 2 443 000 000 ly



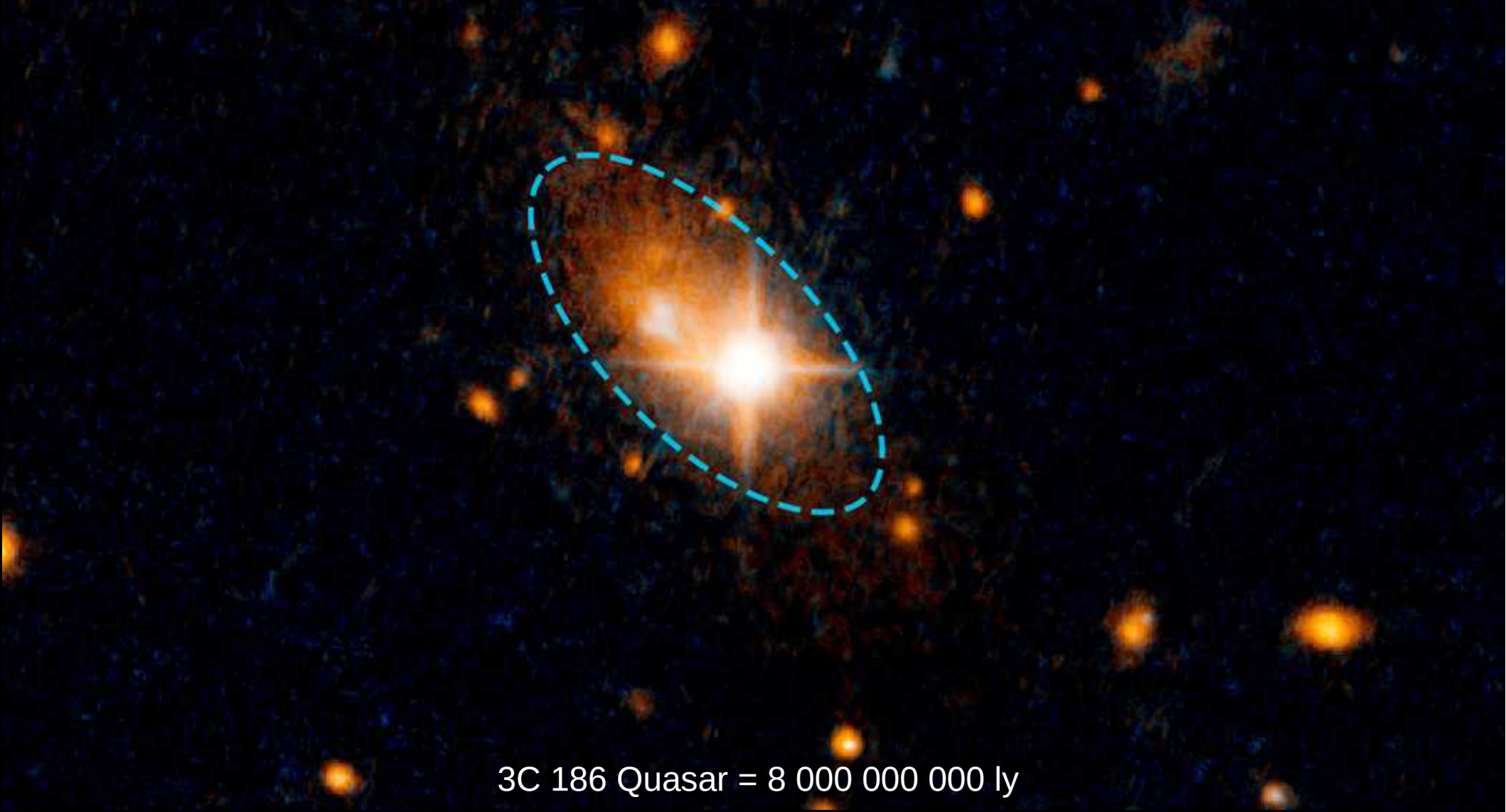
RX-J1532.0+3021 Galaxy Cluster = 3 900 000 000 ly

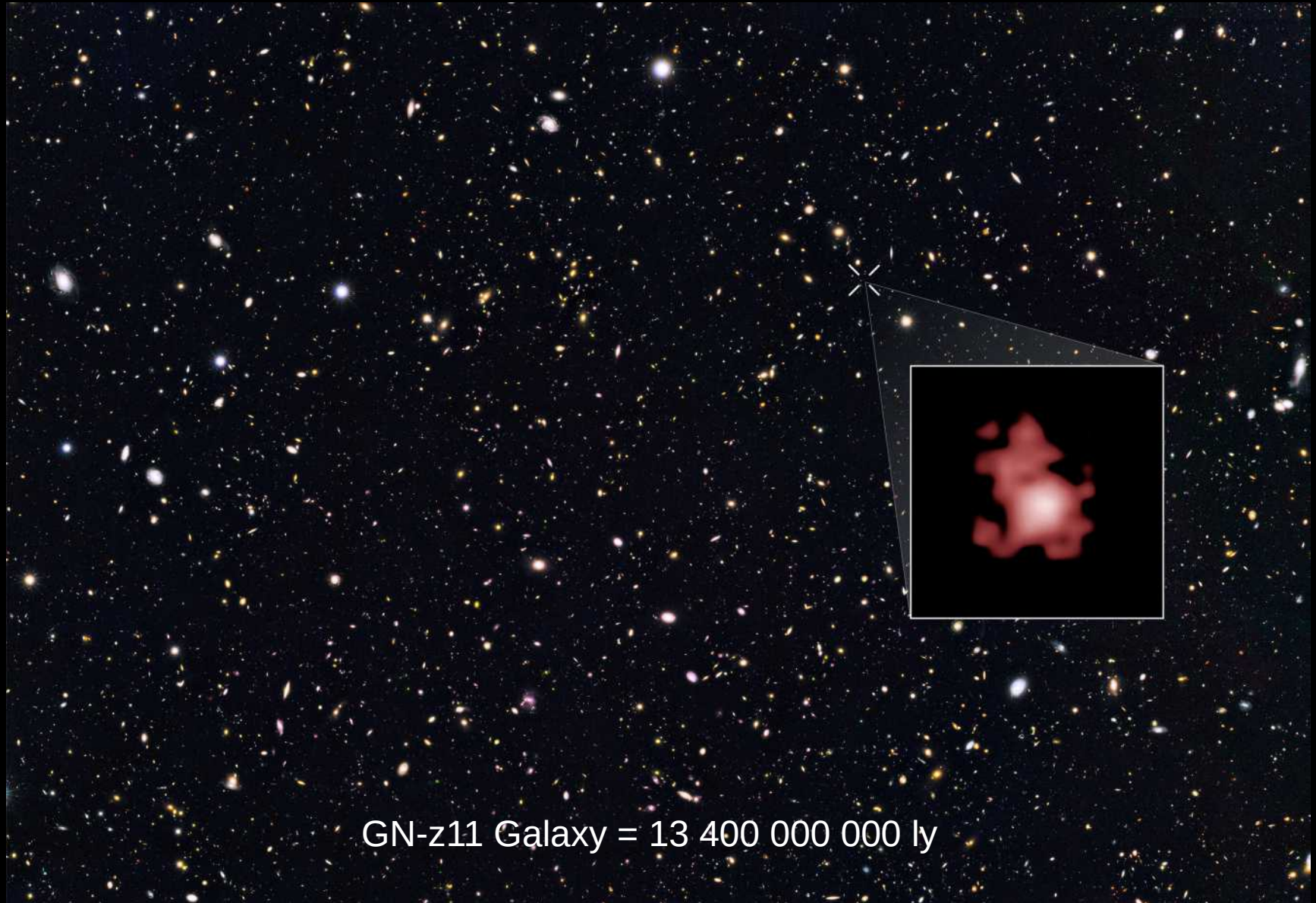


RX-J1347.5-1145 Galaxy Cluster = 5 000 000 000 ly



MACS J0717.5+3745 Galaxy Cluster = 5 400 000 000 ly


3C 186 Quasar = 8 000 000 000 ly


GN-z11 Galaxy = 13 400 000 000 ly

Latest (2016) Estimates:

2 *trillion* galaxies in *observable* Universe

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2 *trillion* galaxies in *observable* Universe

*“He counts the stars*
*and calls them all by name.*
*How great is our Lord! His power is absolute!*
*His understanding is beyond comprehension!”*

*[Psalm 147:4-5 NLT]*


We are on
the planet Earth, which is inside
the Solar System, which is inside
the Milky Way galaxy, which is inside
the Local Group, which is inside
the Laniakea Supercluster, which is inside
the known universe.
Source: Nature

Celebrating the Wonder of the Night Sky

Video