
Flir-c2-user-manual.pdf
JAMES WEBB
SPACE
TELESCOPE

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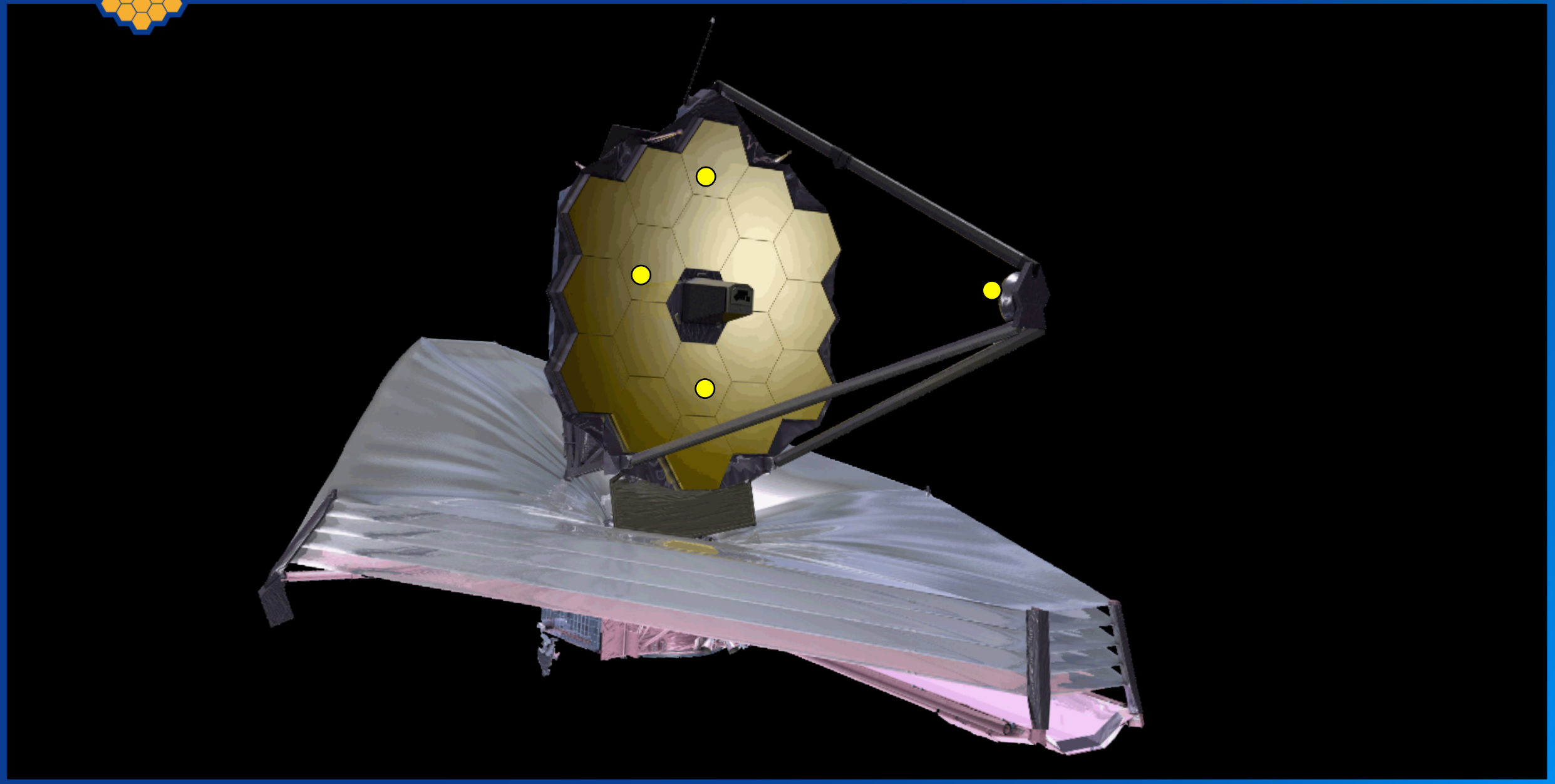


JAMES WEBB SPACE TELESCOPE

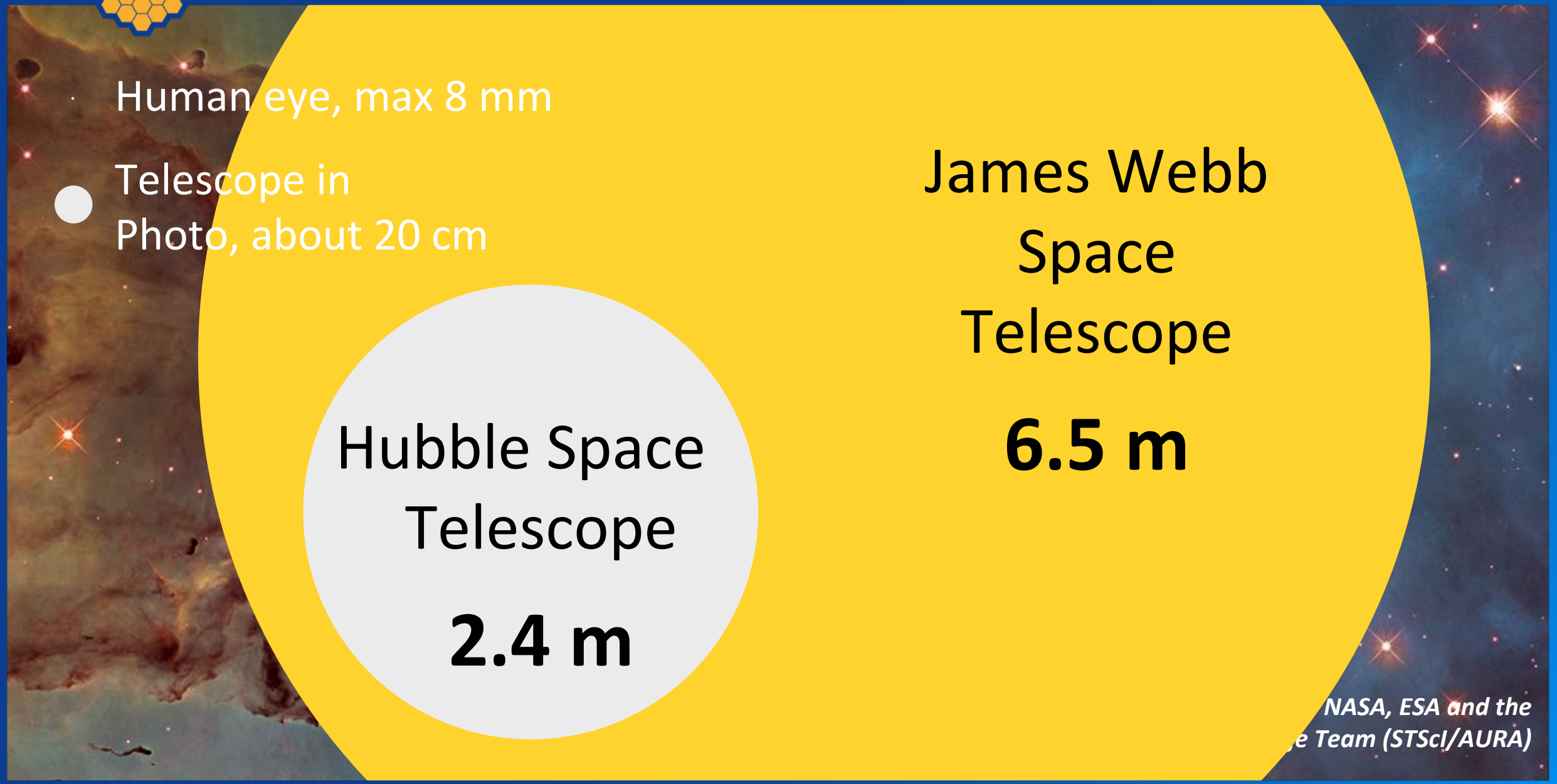
- Human eye, max 8 mm
- Telescope in Photo, about 20 cm

Hubble Space Telescope

2.4 m

James Webb Space Telescope

6.5 m



NASA, ESA and the e Team (STScI/AURA)

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Credit: Northrup Grumman

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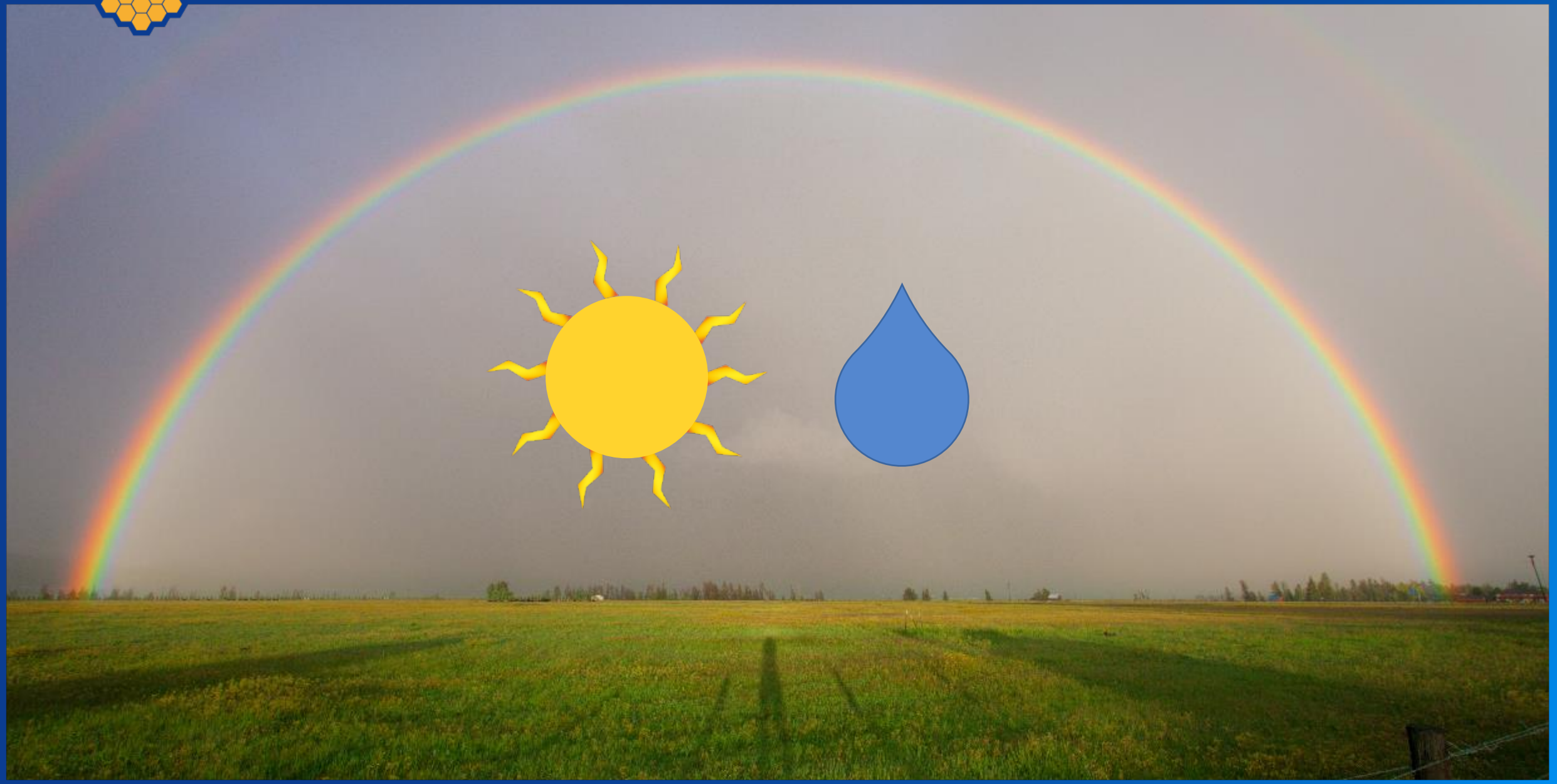
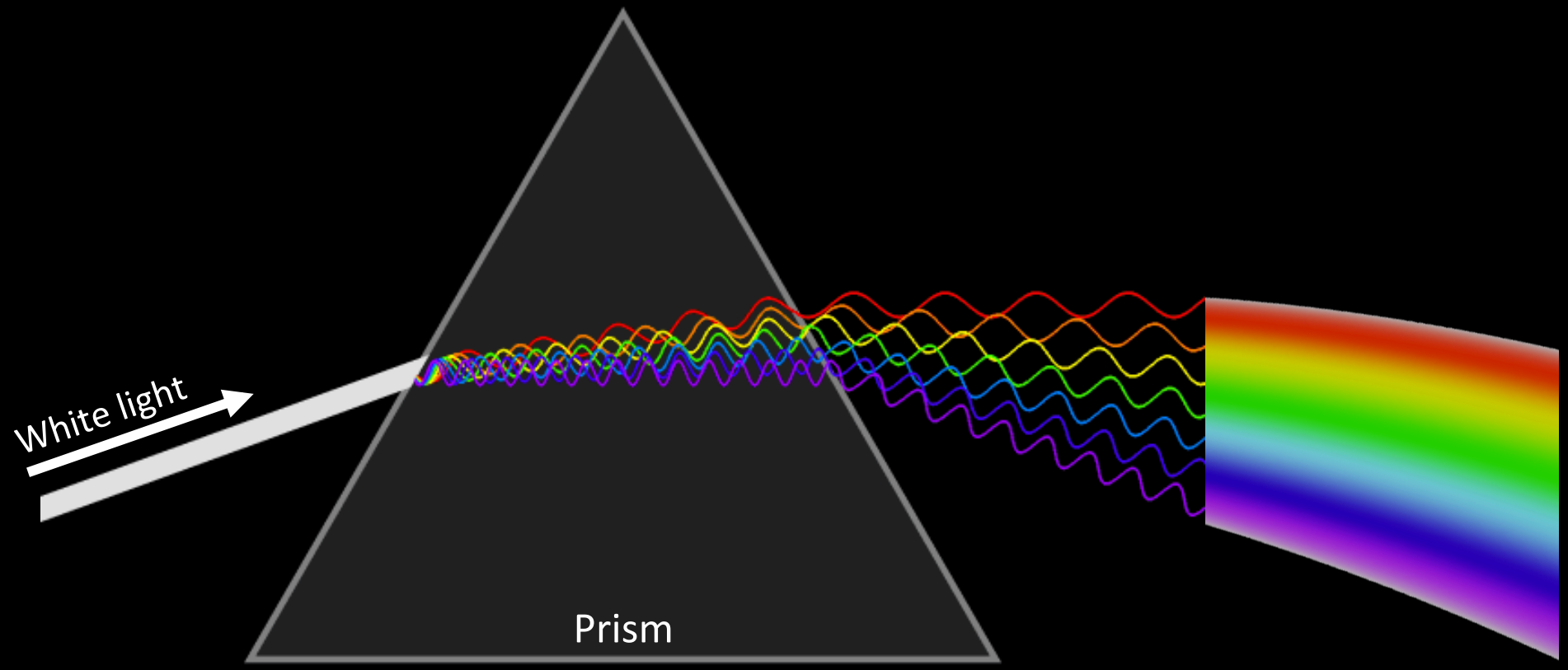


Separating colours



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What is at the end of the rainbow?

?

?

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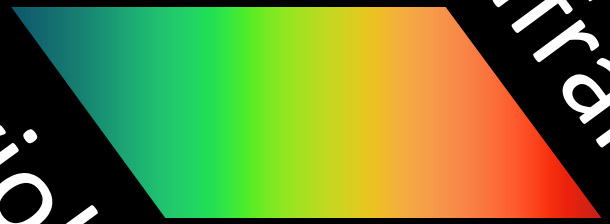
What is at the end of the rainbow?

?

Gamma rays

X-rays

Ultraviolet

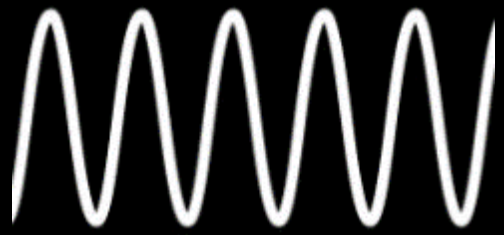


Infrared

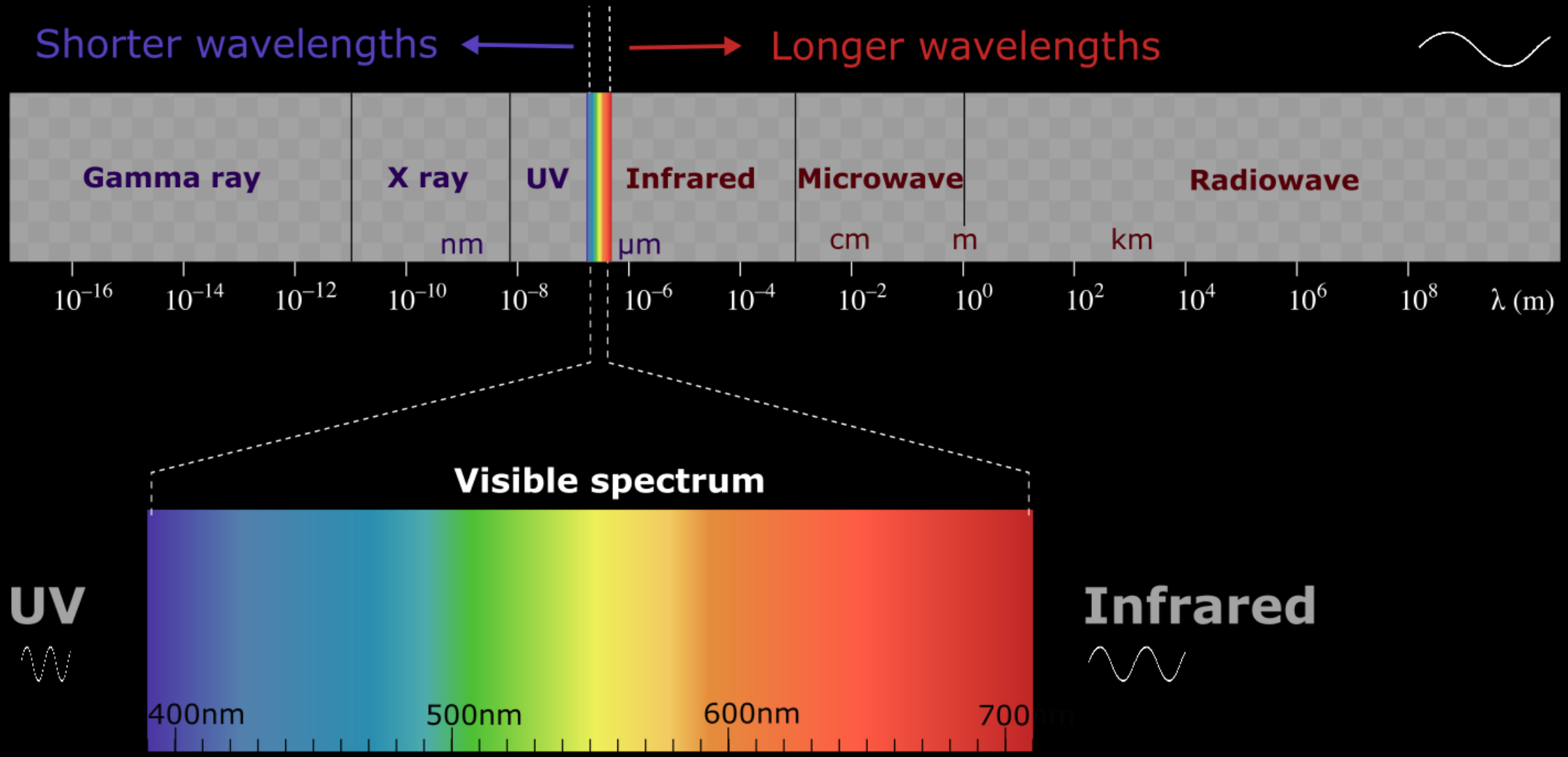
Microwaves

Radio waves

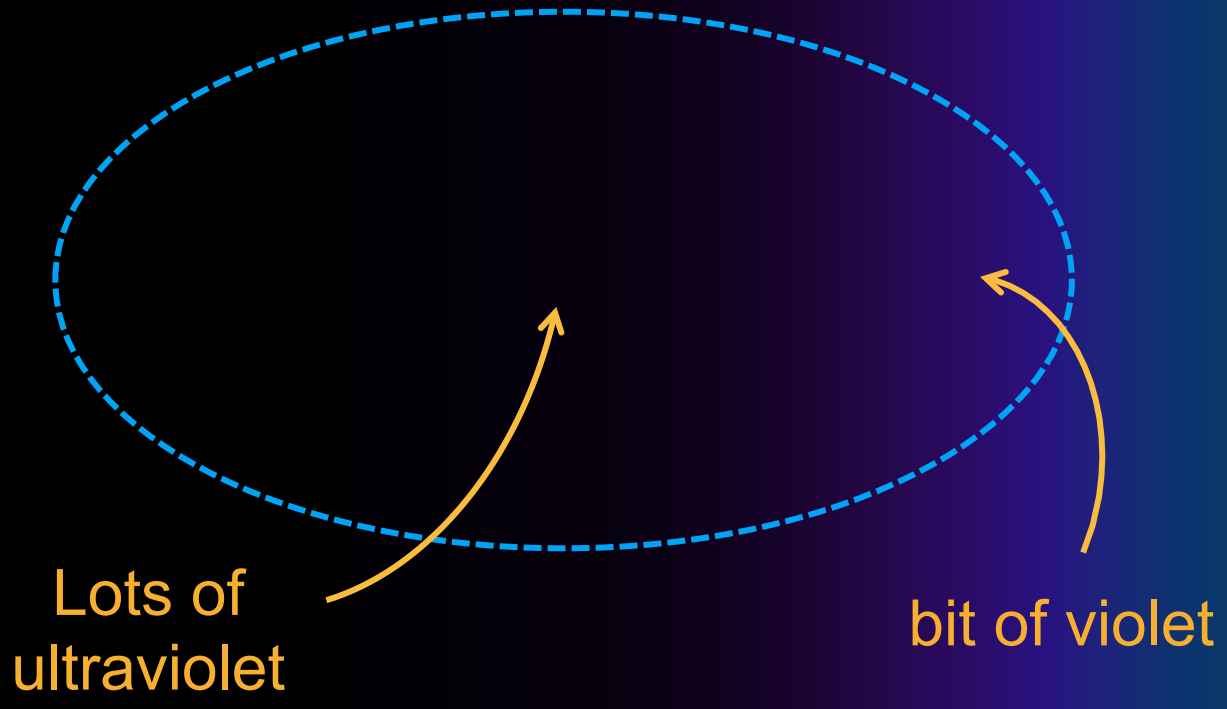
?



Electromagnetic Spectrum



SEEING THE INVISIBLE
Ultraviolet (re-emission)



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SEEING THE INVISIBLE
Ultraviolet (reflection)

Images by Birna Rørslett








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SEEING THE INVISIBLE
Infrared (reflection)

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SEEING THE INVISIBLE
Infrared (emission)

Louis the Cat

Toasty toe beans

Camera activities 1

Switch to camera on screen
Black / white images only
Look for warmer/cooler things

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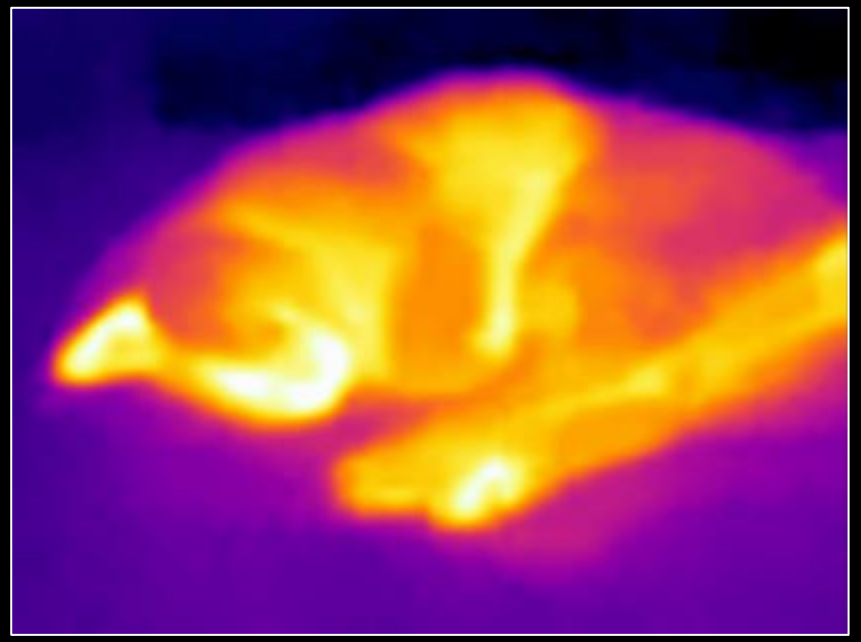
Coding in Colours

Intensity of infrared light



Different intensities coded as different colours

What do the colours mean?

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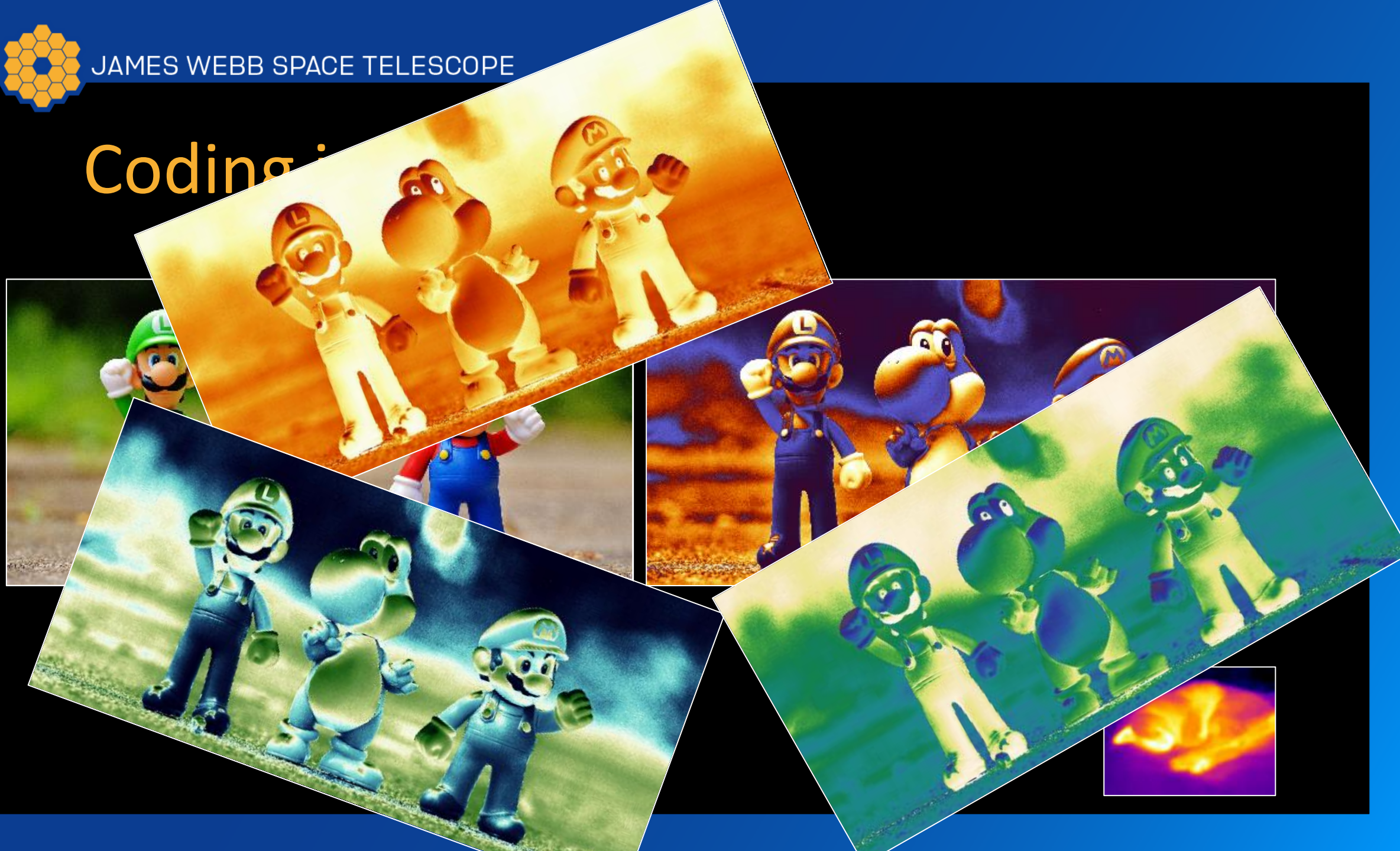
Coding i



Camera activities 2

Switch to camera on screen

Investigate transparency vs visible light

- Discover we can see through binbag
- Discover Mylar is like a mirror

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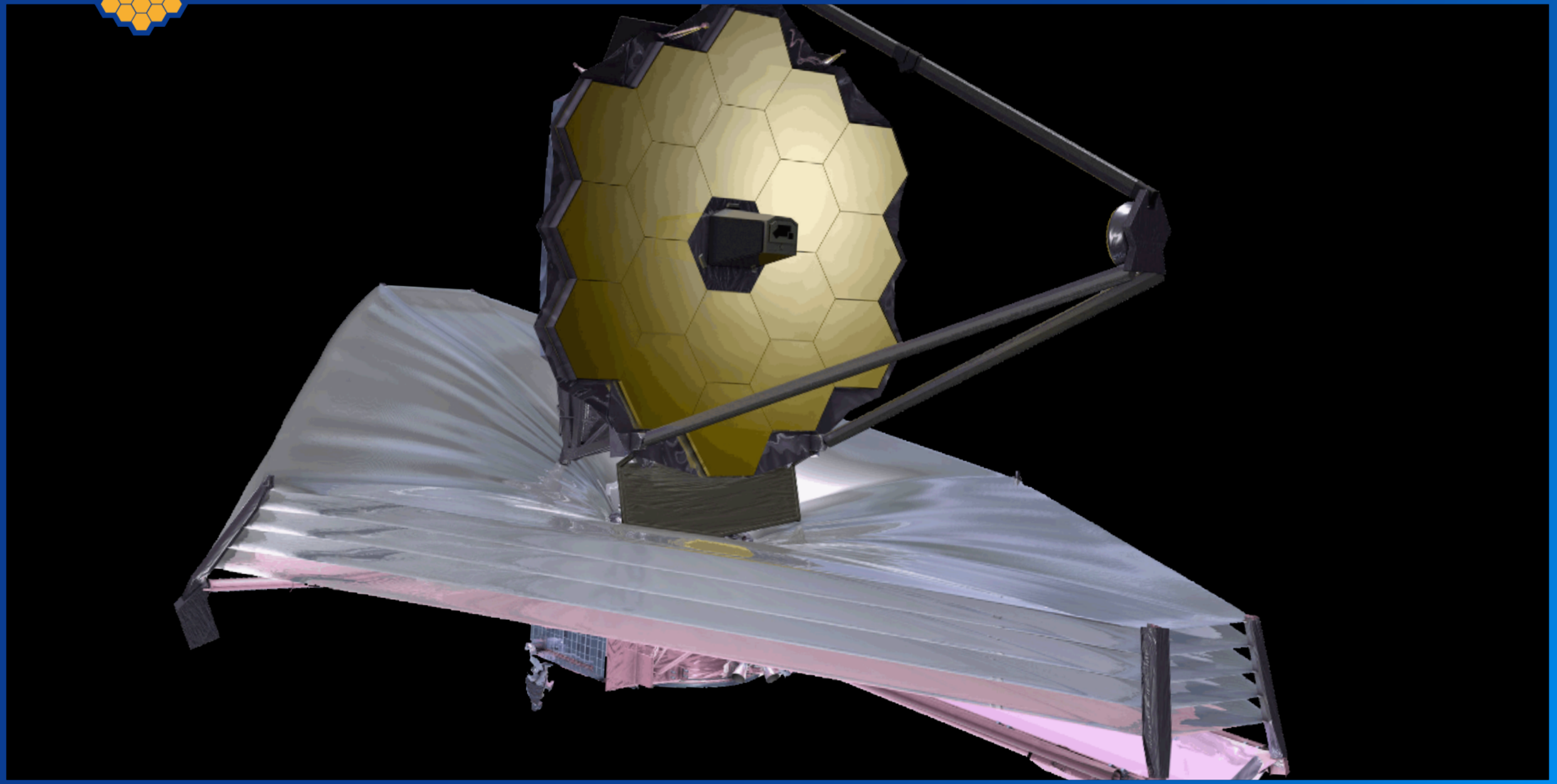

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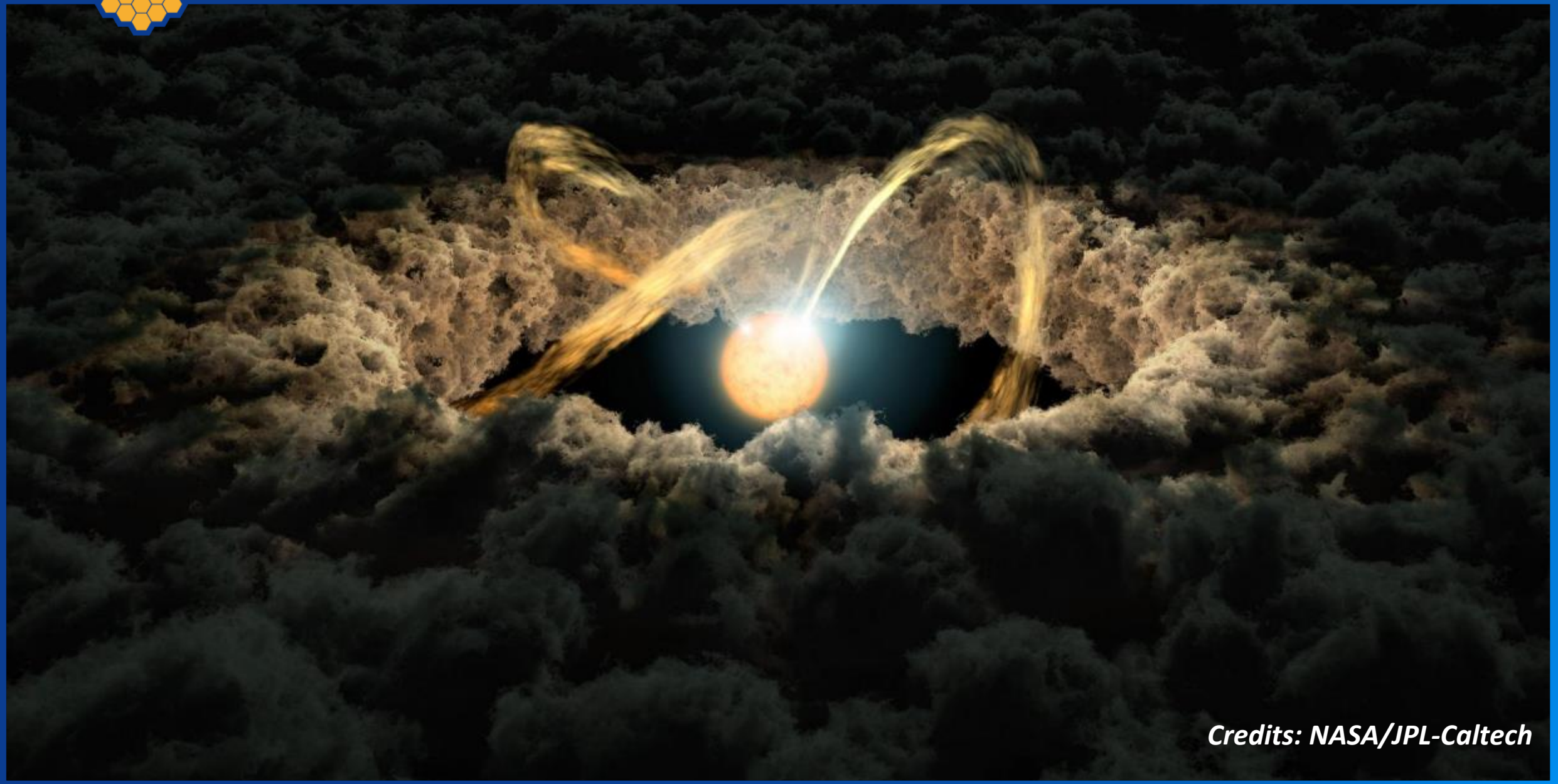

Credits: NASA/JPL-Caltech

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Credits: NASA and the Hubble Heritage Team (AURA/STScI); Acknowledgment: S. Smartt (Institute of Astronomy) and D. Richstone (U. Michigan)

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Credits: NASA, ESA, K. Kuntz (JHU), T. Beck and K. Gordon (STScI), J. Trauger (Jet Propulsion Lab), J. Mould (NOAO), Y.-H. Chu (University of Illinois, Urbana) and STScI

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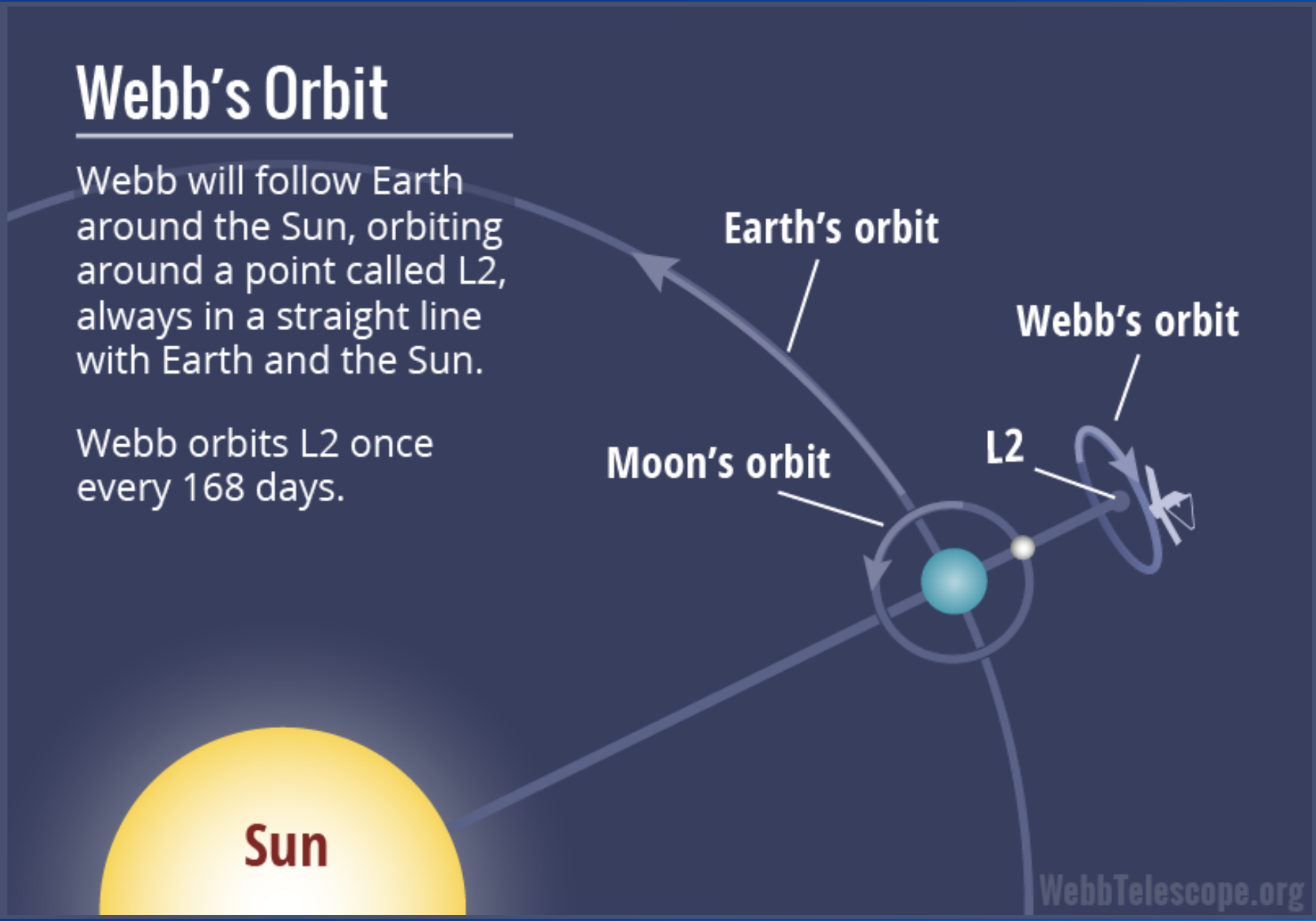
Webb's Orbit

Webb will follow Earth around the Sun, orbiting around a point called L2, always in a straight line with Earth and the Sun.

Webb orbits L2 once every 168 days.



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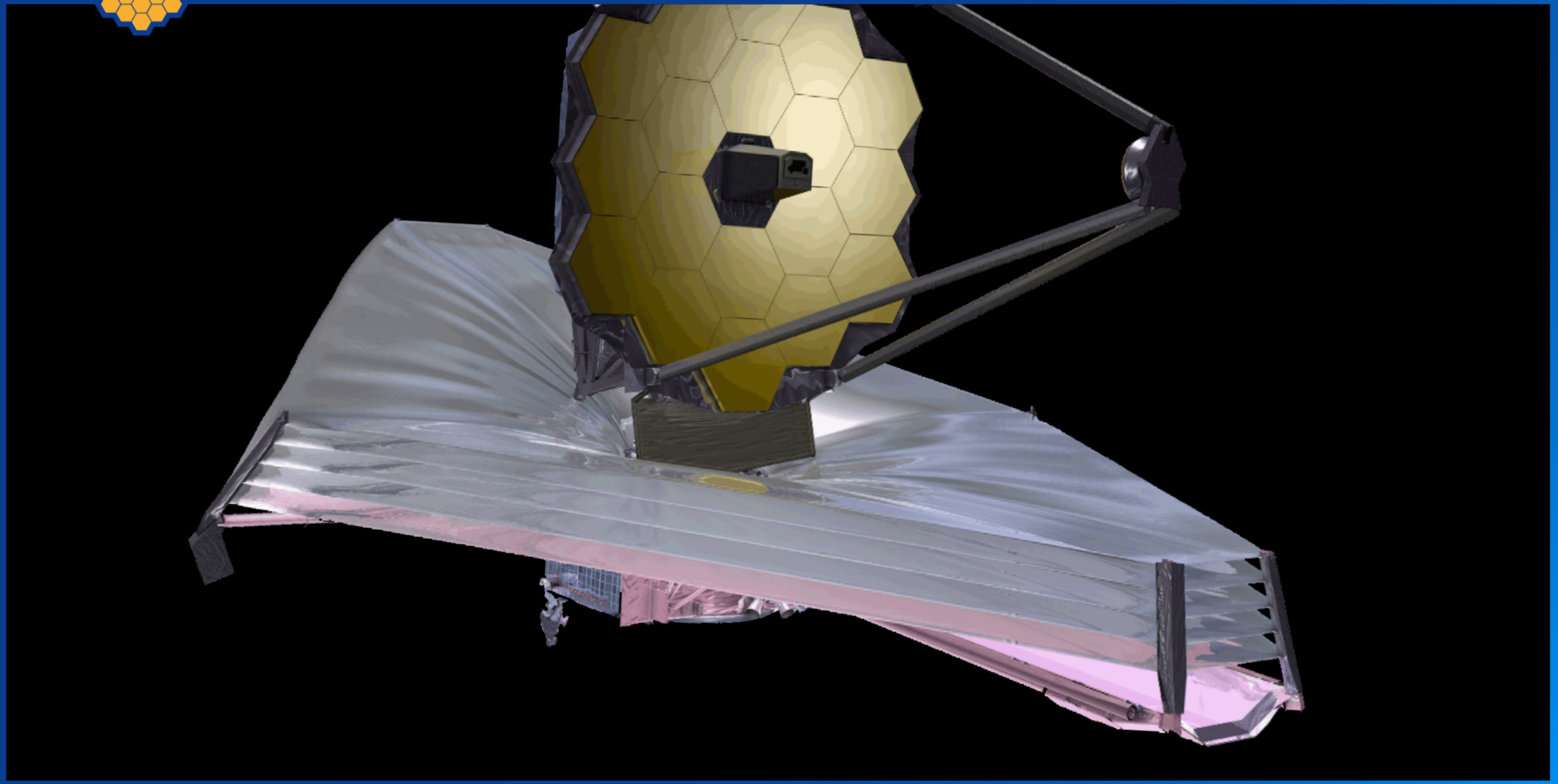

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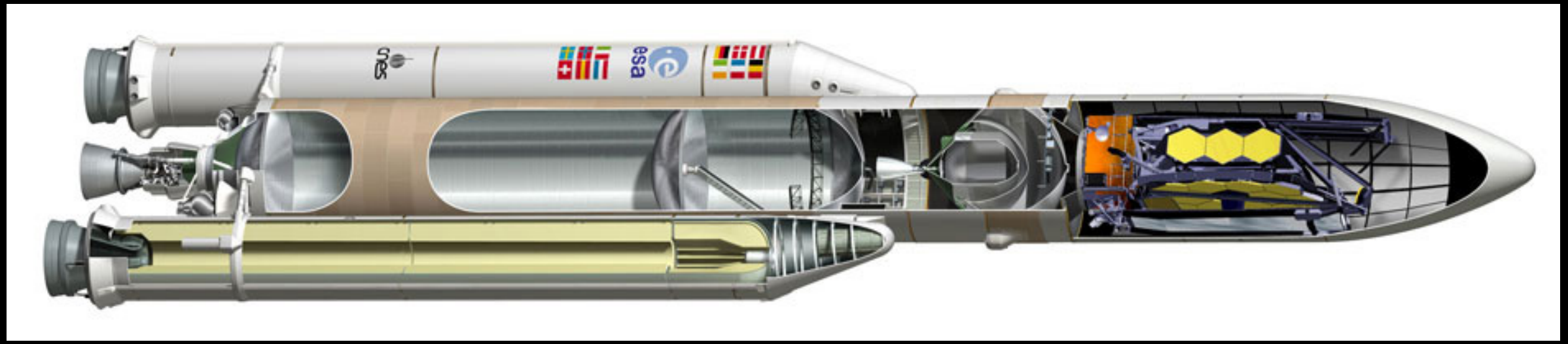
SPACE FRIDGE!

NASA/JPL-Caltech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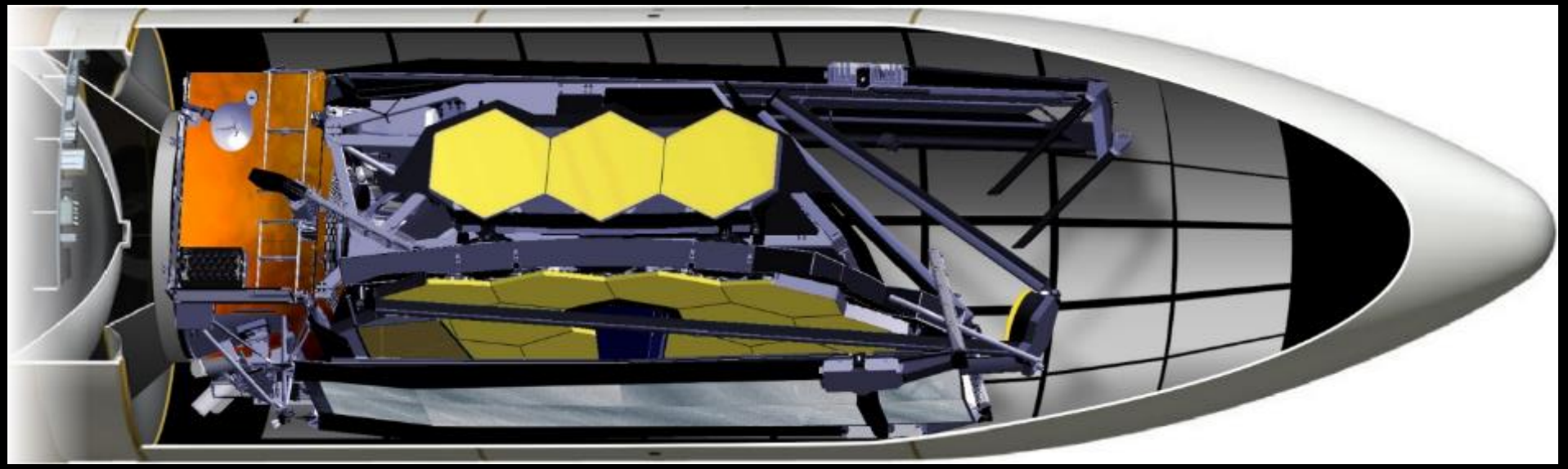

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Project progress

Original launch date:	2007
Current launch date:	2021
Original budget:	$ 500,000,000
Current budget:	$ 8,000,000,000

Current situation

2015 ☑ Mirrors
2012 ☑ Space Fridge
2012 ☑ MIRI detector
2016 ☑ Other instruments
☐ Sunshield

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March 2021

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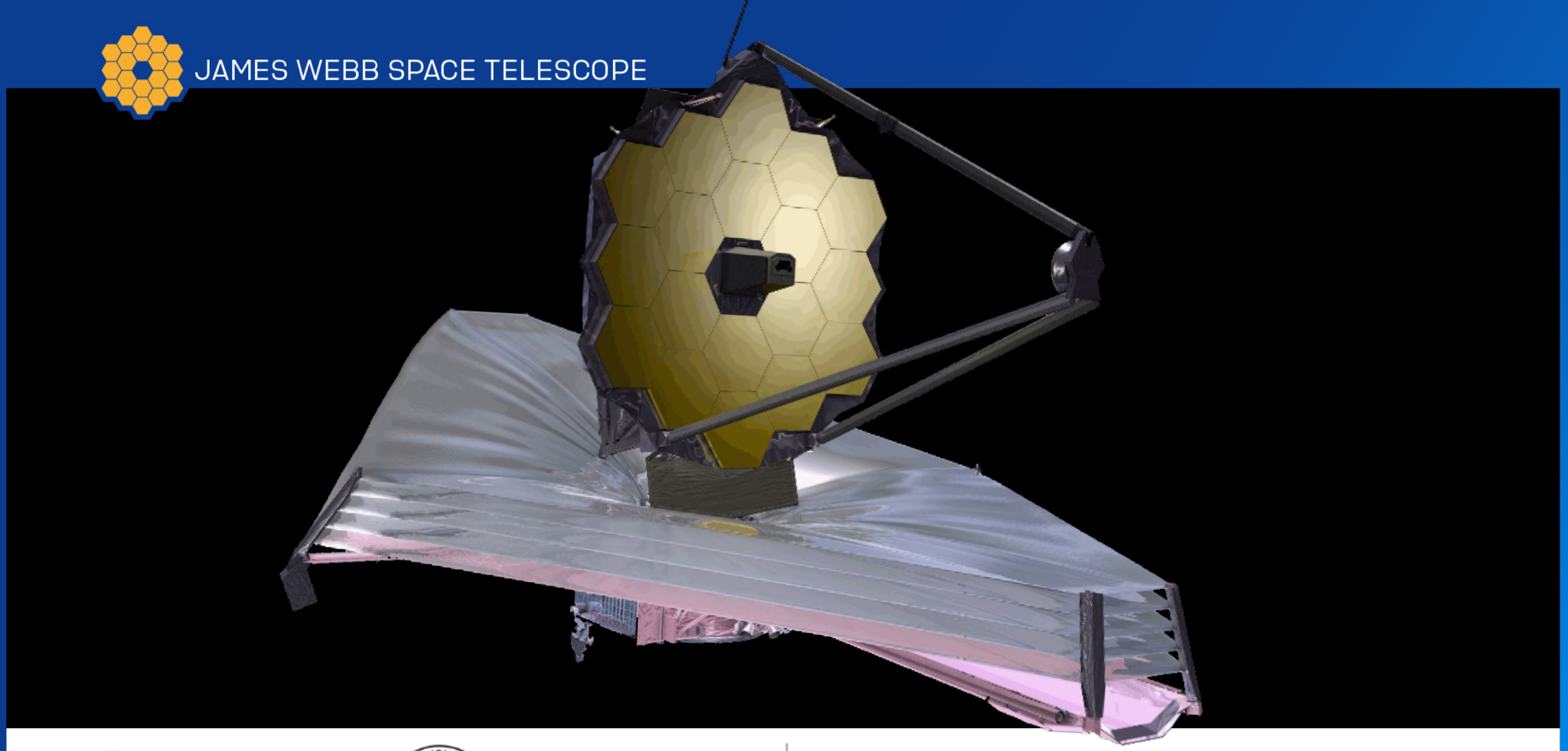

ASTROBOOST

Science & Technology Facilities Council

UK Research and Innovation

HAMPSHIRE ASTRONOMICAL GROUP

GUILDFORD ASTRONOMICAL SOCIETY