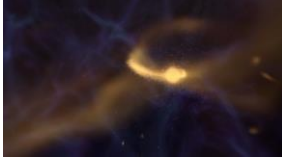


Today's Class: The Hubble & James Webb Space Telescopes

- Reading: Section 6.4 in Cosmic Perspective.
- Homework #3 due by 5 pm today.



Computer simulation of Galaxy Formation like that expected to be seen by JWST



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1

Last Class

- The Hubble Space Telescope (HST) – visible and uv
- The James Webb Space Telescope (JWST) – near IR

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2

Question: **What advantages come from putting a telescope in space?**

- all wavelengths can be seen, even those that don't penetrate Earth's atmosphere
- images may be sharper, without moving air to blur them
- you are closer to the stars, for a better view
- a and b

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3

Clicker Question: **What advantages come from putting a telescope in space?**

- all wavelengths can be seen, even those that don't penetrate Earth's atmosphere
- images may be sharper, without moving air to blur them
- you are closer to the stars, for a better view
- a and b**

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4

Today's Class

- **Why do we put telescopes in space?**
 - Access to more of the electromagnetic spectrum
 - Turbulence in the atmosphere
- **The Hubble Space Telescope (HST) & the Cosmic Origin Spectrograph (COS)**
- **The James Webb Space Telescope**

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5

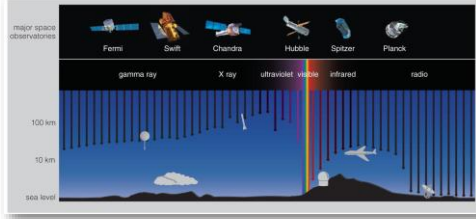
Why do we put telescopes into space?



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6

Transmission in Atmosphere



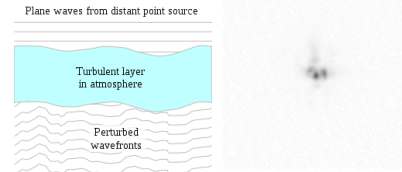
- Only radio and visible light pass easily through Earth's atmosphere.
- We need telescopes in space to observe other forms.

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7

Why do we put telescopes into space?

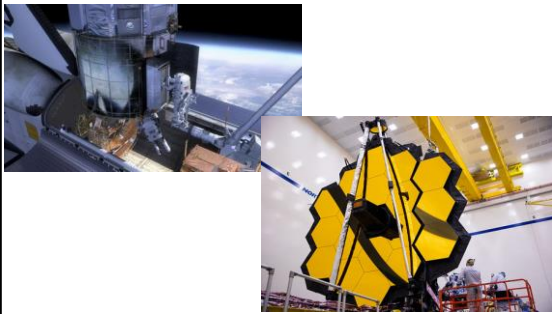
- Forms of light other than radio and visible do not pass through Earth's atmosphere.
- Also, much sharper images are possible because there is no turbulence.



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8

Videos of HST & JWST



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9