

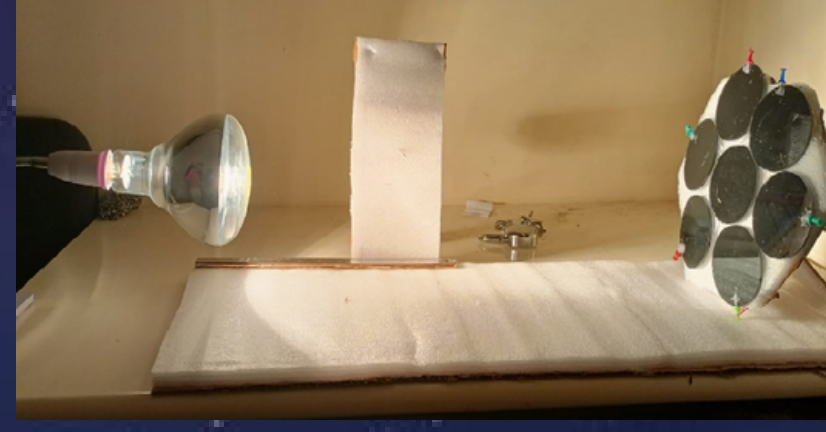
OPTICAL ODYSSEY SUMMER PROJECT



2023

MENTORS

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Model for Testing Heat Shield and Mirror Alignment of JWST

History of Telescope



Hans Lippershey telescope 1608 Galileo Telescope 1609 Keplerian Telescope 1611

Types of Telescopes

- Refracting Telescope
- Reflecting Telescope
- Cassegrain Telescope
- Radio Telescope
- Space Telescope

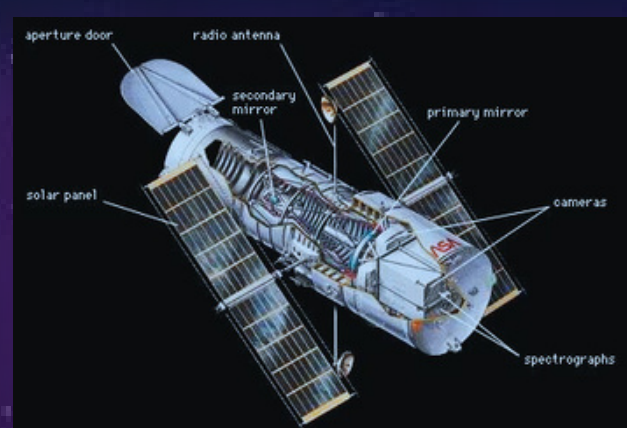


Components of Telescope



Types of Mounts include
• Equatorial Mount
• Azimuthal Mount

Hubble Telescope



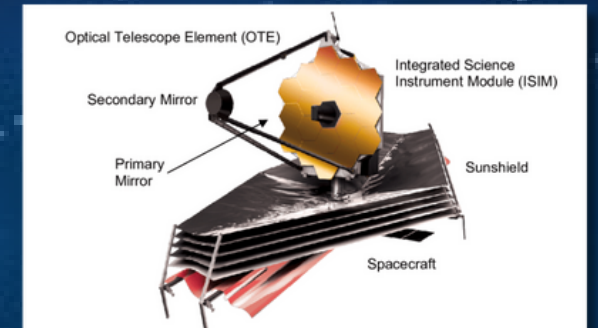
An ode to
Edwin
Hubble!

Astrophotography



Components of JWST

- Launch Vehicles
- Mirrors
- Sunshield
- Acoustic Cryocooler



Crucial Components of JWST

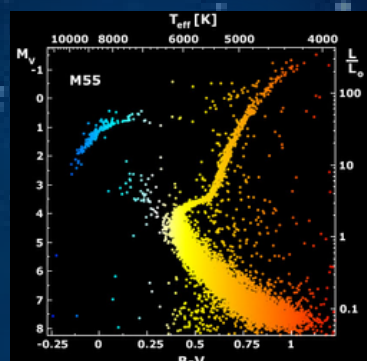
ISIM

Components
of ISIM -->

- NIRCAM INSTRUMENT
- MIRI INSTRUMENT
- NIRSPEC INSTRUMENT
- FGS/NIRISS INSTRUMENT

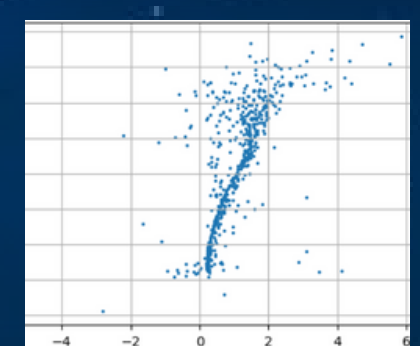
HR Diagram and Python Libraries

- HR Diagram- Magnitude V/s Temperature plot
- Astropy - Reading Star Data
- Matplotlib- Data Visualization



Calculating Stellar Age of Globular Cluster

The age of globular cluster is determined by recognizing the main sequence turnoff points in the HR diagrams.



NGC 2420