



Inouye Solar Telescope

FAST FACTS



- ✦ Inouye Solar Telescope is located at 10,023 feet near the summit of Haleakalā on the Island of Maui.
- ✦ Haleakalā is a massive shield volcano rising about 2 miles in elevation.
- ✦ Hawaii is a nearly perfect place for solar astronomy thanks to trade winds, low dust, and high mountains. Dust particles scatter light, making faint objects like the solar corona difficult to observe.
- ✦ Haleakalā, the mountain on which Inouye Solar Telescope is built, means “House of the Sun” in the Hawaiian language.



learn more at www.nso.edu



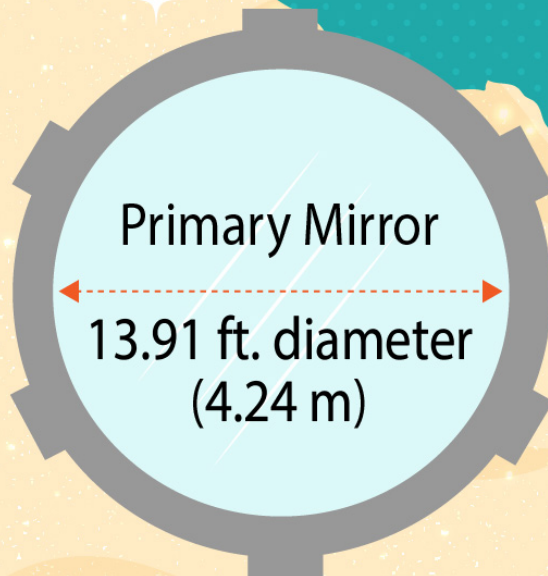
Inouye Solar Telescope

FAST FACTS

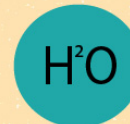
The Primary Mirror is polished to a thickness of less than

2 Nanometers

If the DKIST Primary Mirror was scaled to the same diameter as the continental USA, the biggest bump on it's surface would be less than the thickness of a dime!



[2 Nanometers is about the size of a water molecule!]

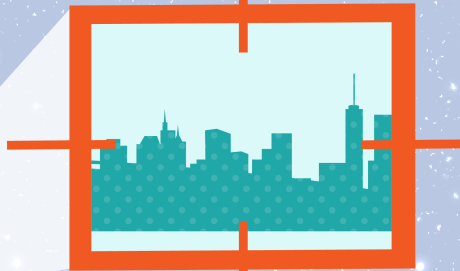
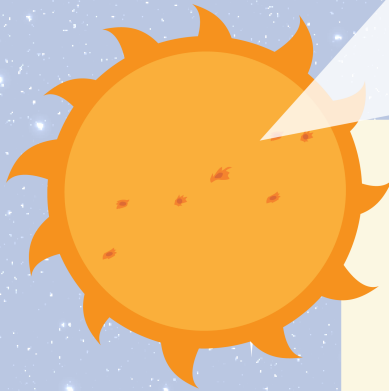


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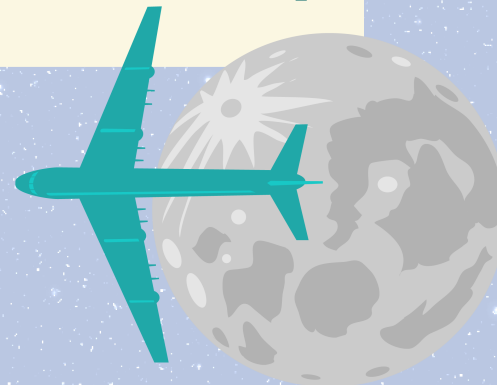


With the Telescope's advanced optics, scientists will be able to resolve objects on the Sun small as

15 miles (25 km)

or an area smaller than the city of Manhattan!
Very impressive given that its 150 million miles away!

[That's like being able to see a Jumbo Jet on the Moon from Earth.]



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FAST FACTS

Inouye Solar Telescope's 4 meter mirror will focus

12 kw of Solar Power.



That's enough power to pop a bag of popcorn in about **3 seconds!**

Or enough power to boil a liter of water in about **27 seconds!**

[A kw is a measure of 1,000 watts of electrical power.]

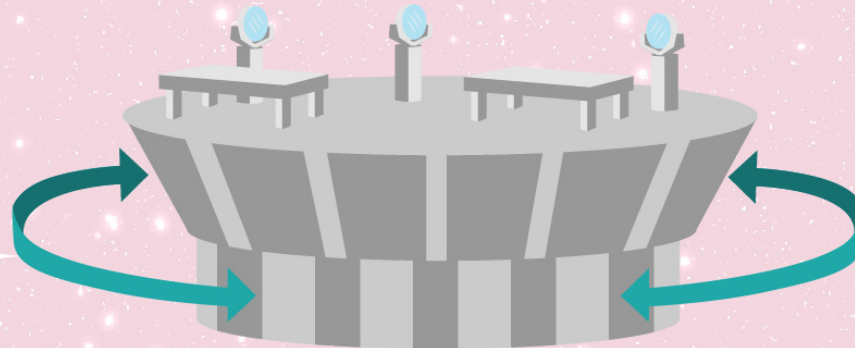
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FAST FACTS

The Inouye Solar Telescope's Rotating Lab is the "Heart" of the telescope. It's a rotating physics lab, where the scientific instruments that observe and measure the sun are located. It's in this lab, that the most exciting Inouye Solar Telescope science takes place!



The whole 150-ton lab rotates to follow the Sun throughout the day, and can be rotated and positioned to an accuracy of three ten thousandths of a degree (0.0003°).

**Or less than the thickness
of a human hair!**

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Inouye Solar Telescope

FAST FACTS

Inouye Solar Telescope will generate about **8 Terabytes of Data** in one day.
That's the same amount of data as found in the entire Library of Congress!
This is comprised of millions of images and hundreds of millions of metadata elements.



Or about 8 average Personal Computers daily.



[A Terabyte is 1 Trillion Bytes, or 1,024 Gigabytes.]

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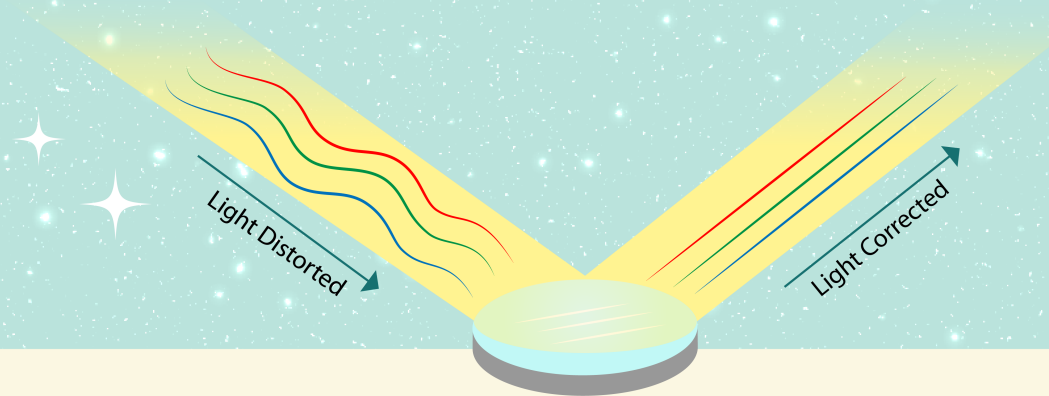
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FAST FACTS

Earth's atmosphere distorts sunlight before it reaches the Telescope, making it difficult to study specific details of our Sun.

Luckily, DKIST's Deformable Mirror will correct for distortions caused by the Earth's atmosphere as small the width of

40 Hydrogen Atoms



As part of the Adaptive Optics System, the Deformable Mirror has **1,600 actuators** that will adjust the mirror's surface in real-time, at about:

2,000 times a second

learn more at www.nso.edu