





WorldWide Telescope Ambassadors Program



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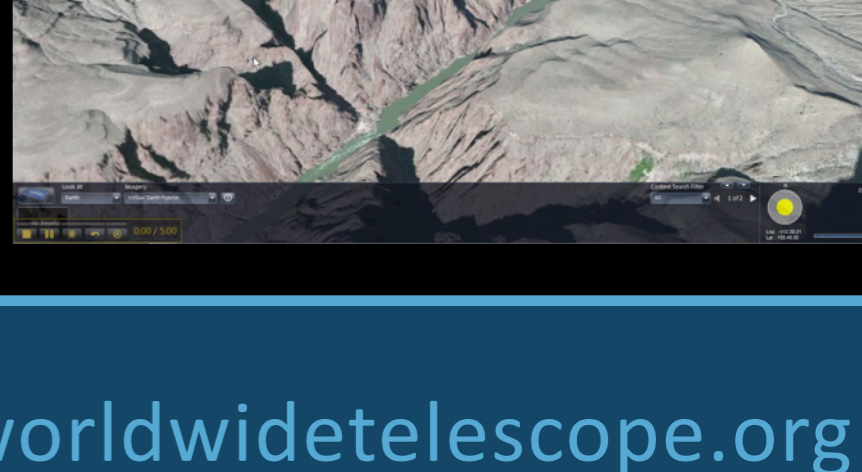
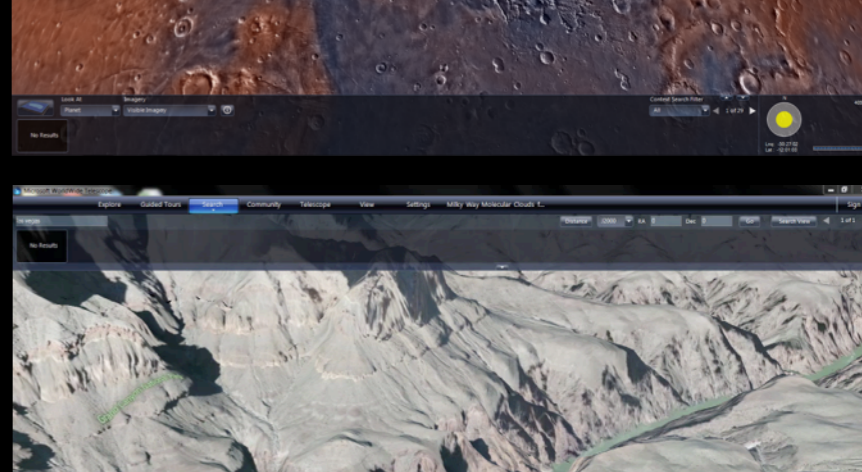
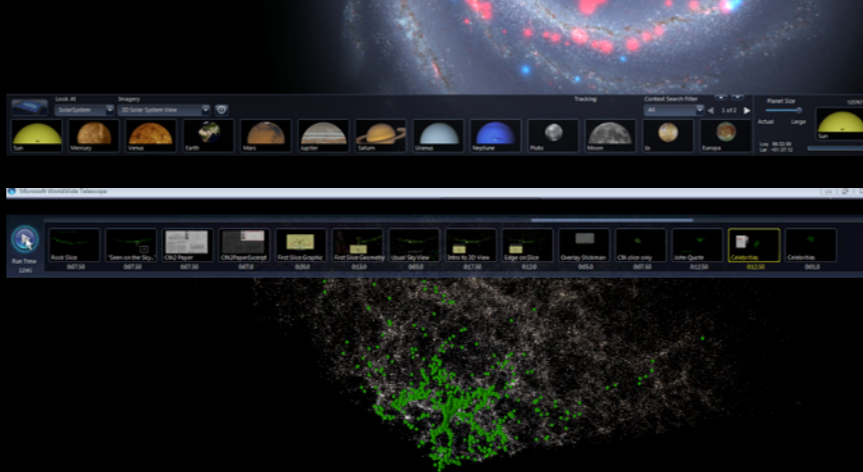
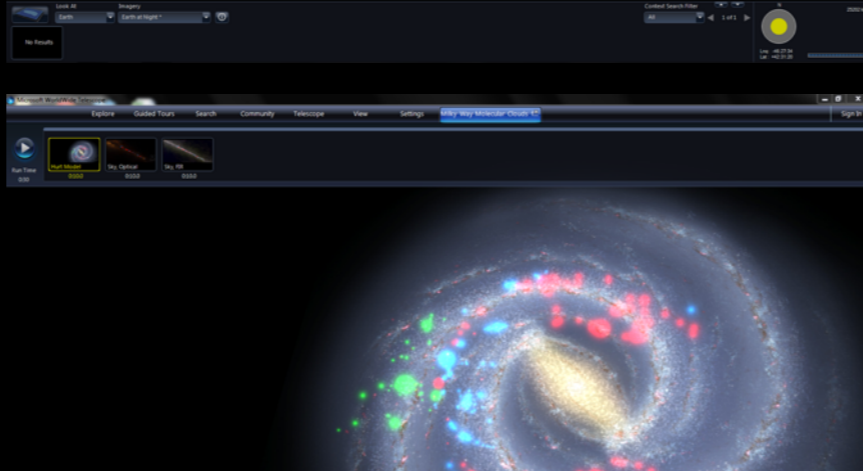
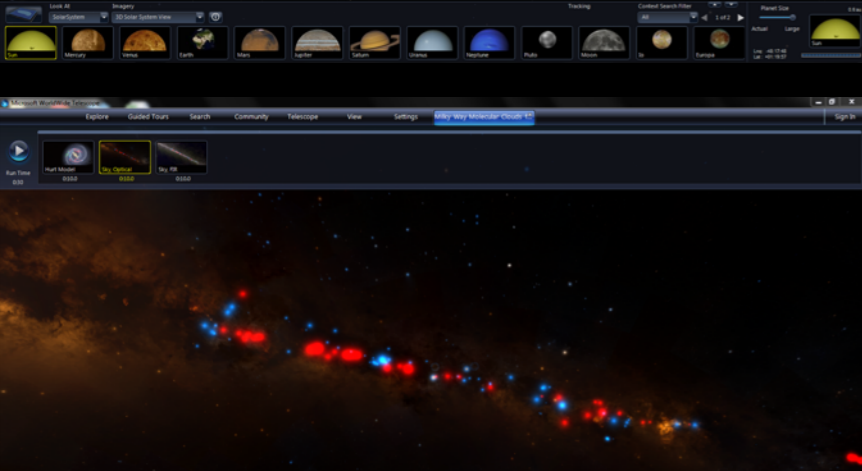
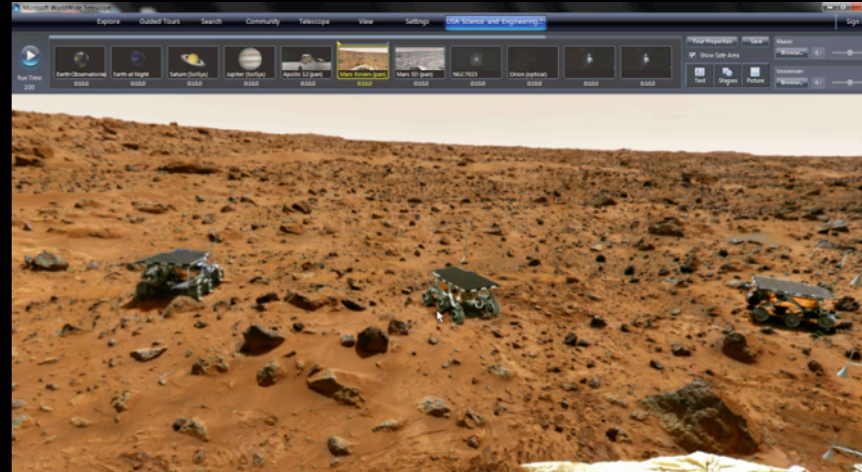
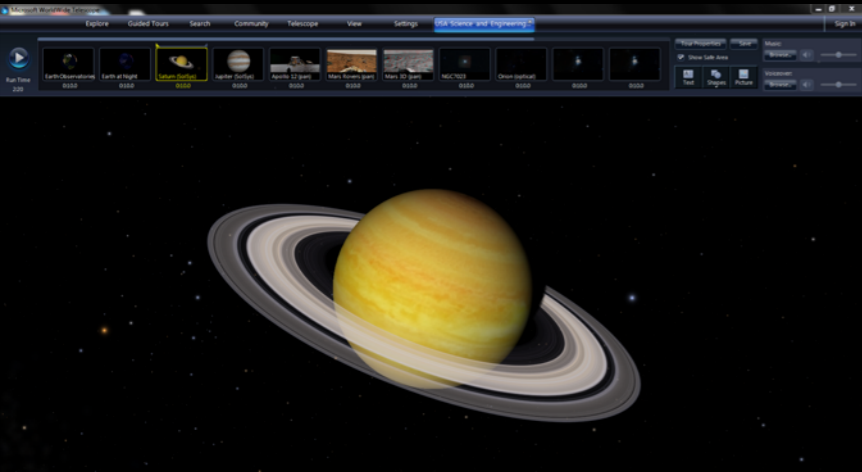
News & Events



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WorldWide Telescope: **The Software**



worldwidetelescope.org

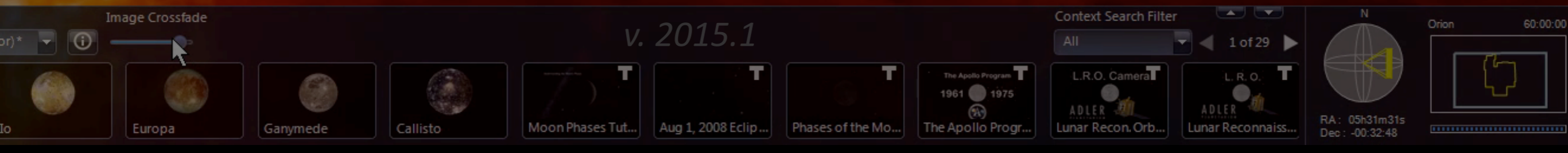


Open Source on a Universal Scale

WorldWide Telescope

Alyssa A. Goodman

Harvard-Smithsonian Center for Astrophysics, @aagie



3500 YEARS OF OBSERVING

Stonehenge, 1500 BC



Ptolemy in Alexandria, 100 AD



Observatory Tower,
Lincolnshire, UK, c. 1300



Galileo, 1600



The "Scientific Revolution"

Reber's Radio
Telescope, 1937



NASA/Explorer 7
(Space-based
Observing)
1959

"The Internet"

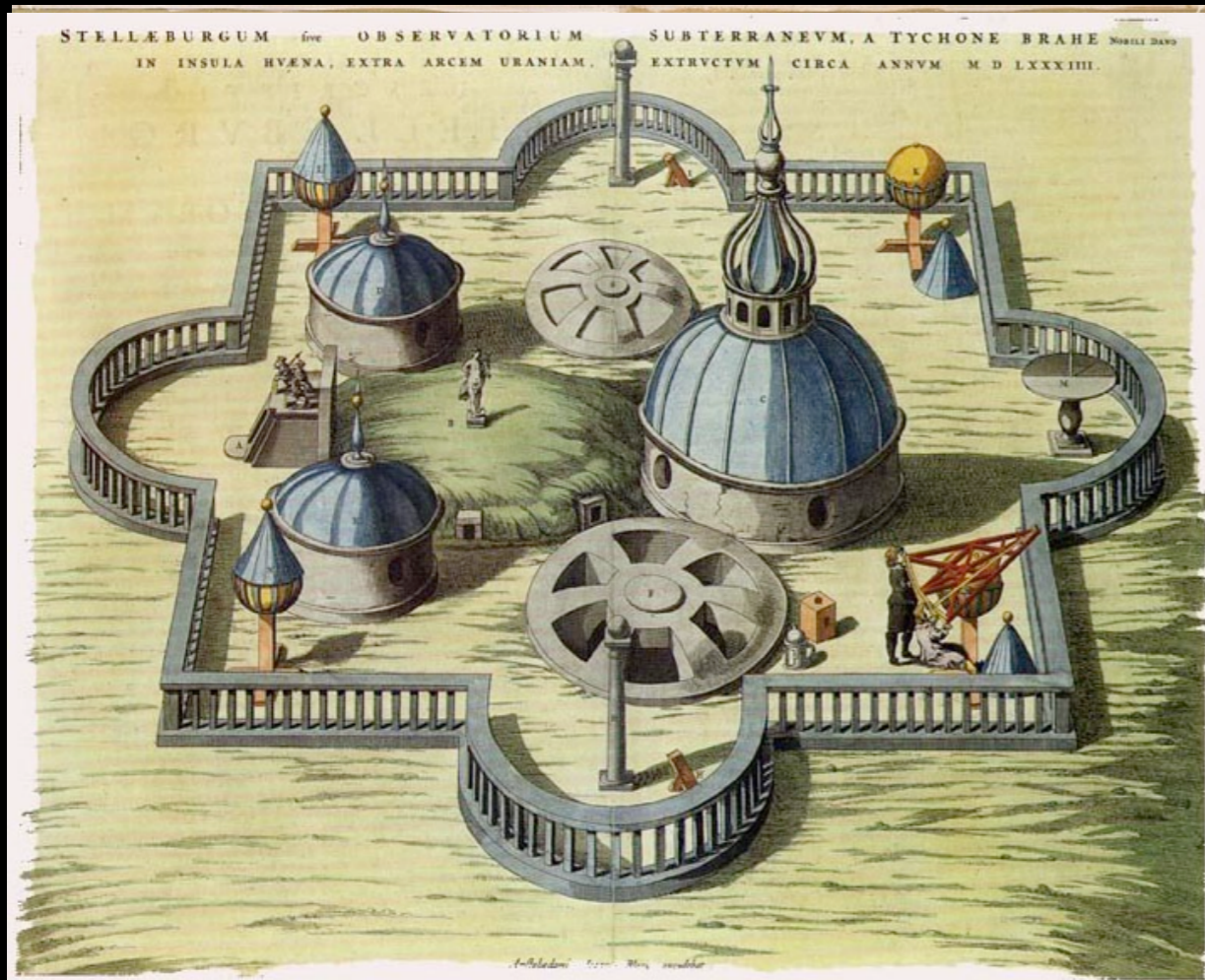


Long-distance
remote-control/ "robotic"
telescopes
1990s



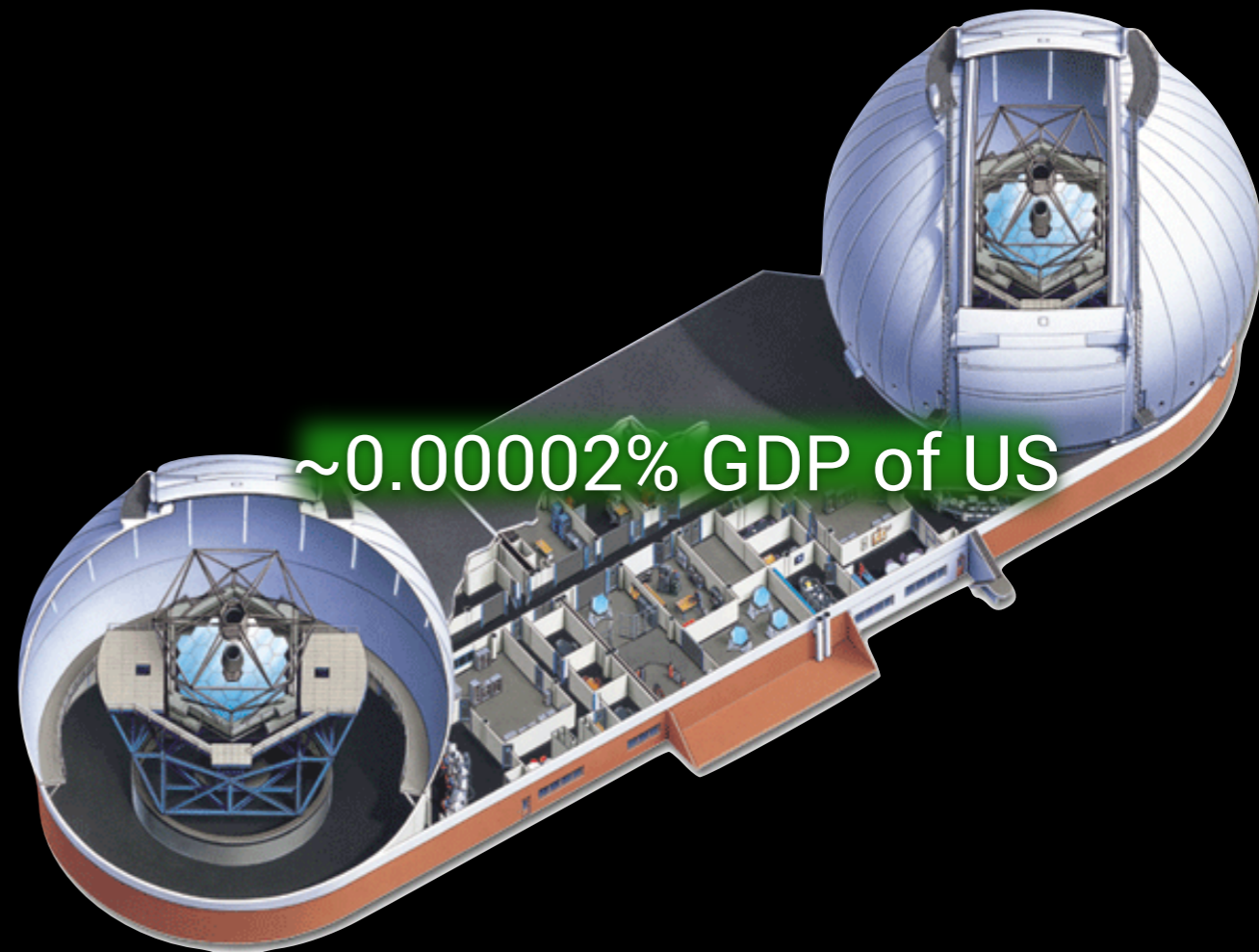
"Virtual Observatories"
21st century

Stjerneborg (Tycho Brahe, 1581)



Galileo: 1610

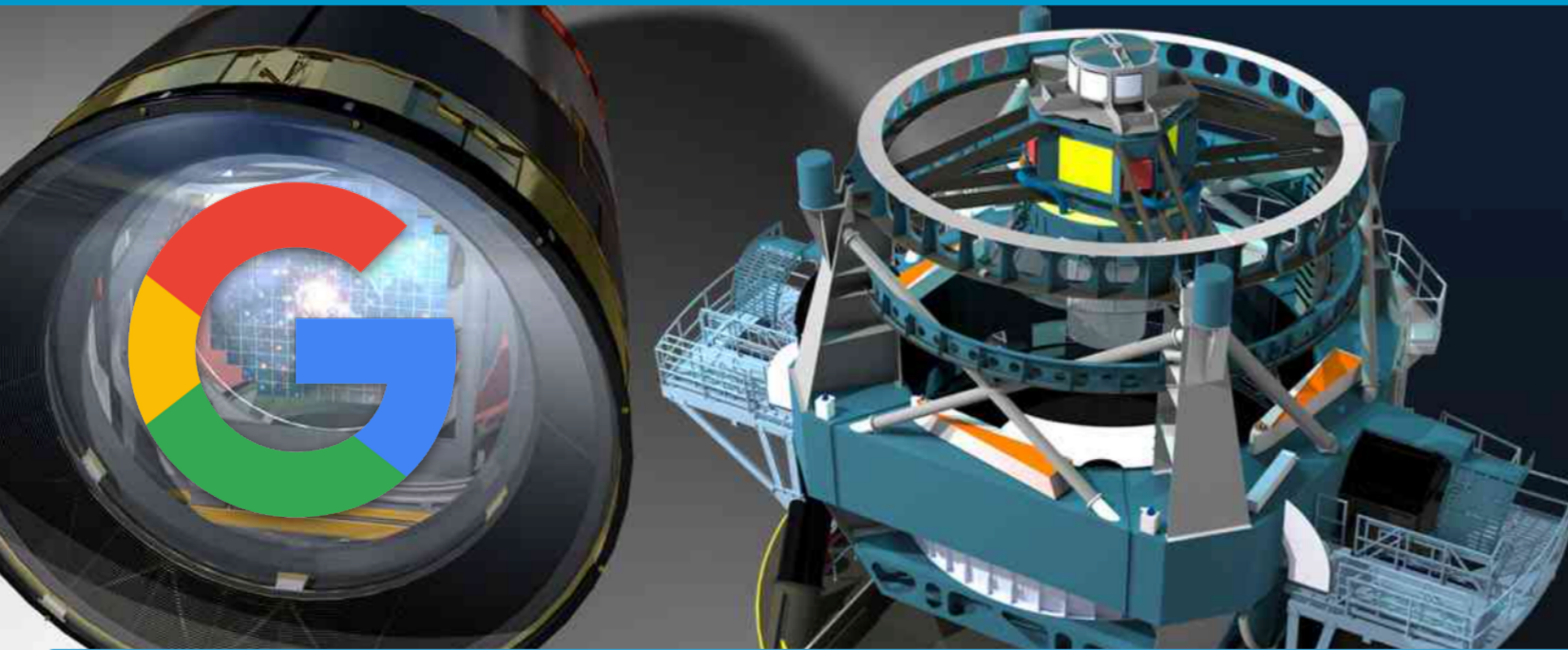
W.H. Keck Observatory (1995+)



Full-sky virtual astronomy: c. 2024?



Large Synoptic Survey Telescope
Opening a Window of Discovery on the Dynamic Universe



These parts of the LSST system will produce the deepest, widest, image of the Universe:

- 27-ft (8.4-m) mirror, the width of a singles tennis court
- 3200 megapixel camera
- Each image the size of 40 full moons
- 37 billion stars and galaxies
- 10 year survey of the sky
- 10 million alerts, 1000 pairs of exposures, 15 Terabytes of data .. every night!

The Large Synoptic Survey Telescope

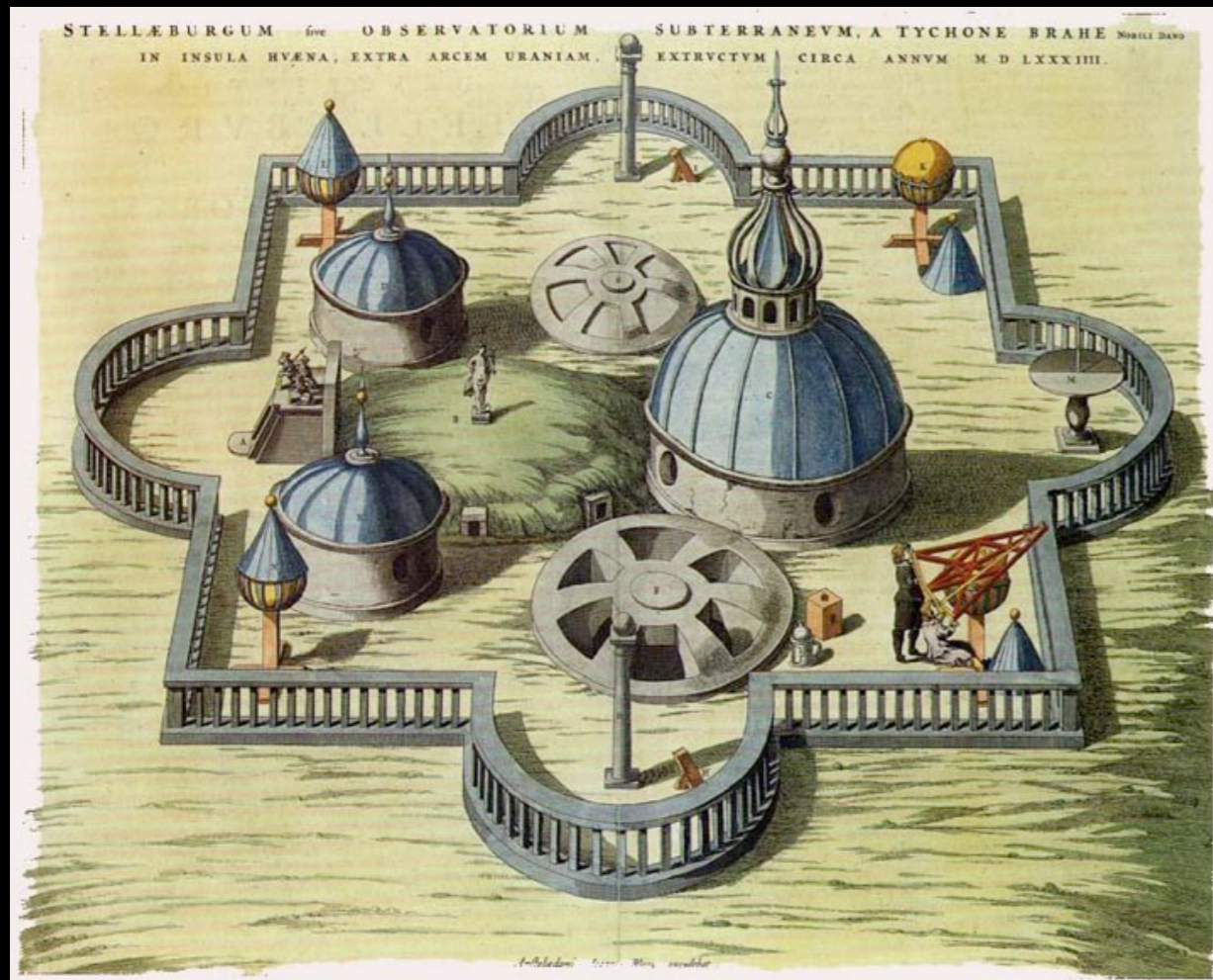
The LSST is a new kind of telescope. Currently under construction in Chile, the LSST is designed to conduct a ten-year survey of the dynamic universe. LSST can map the entire visible sky in just a few nights; each panoramic snapshot with the 3200-megapixel camera covers an area 40 times the size of the full moon.



Main Columns Construction

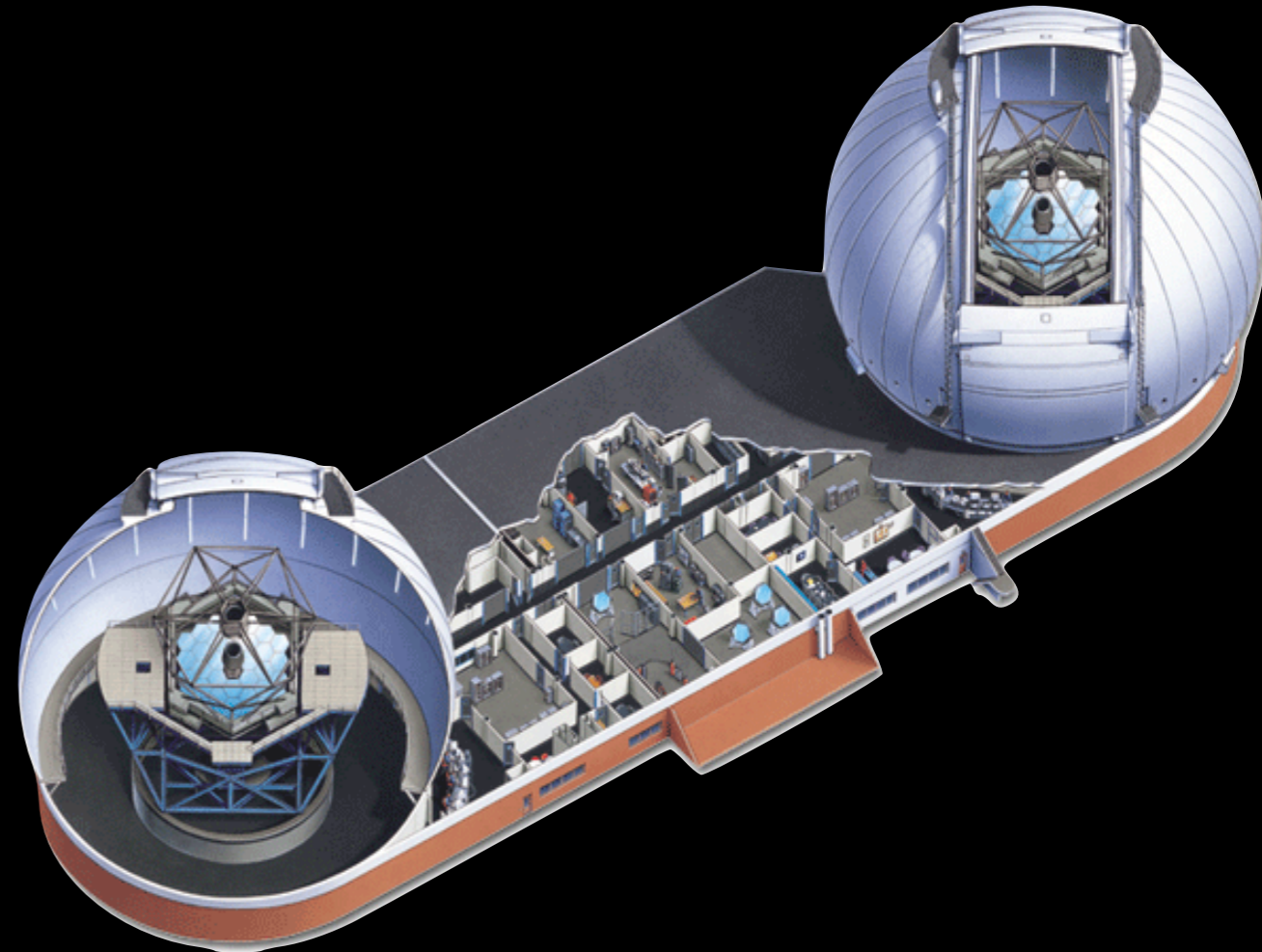


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Galileo: 1610

W.H. Keck Observatory (1995+)

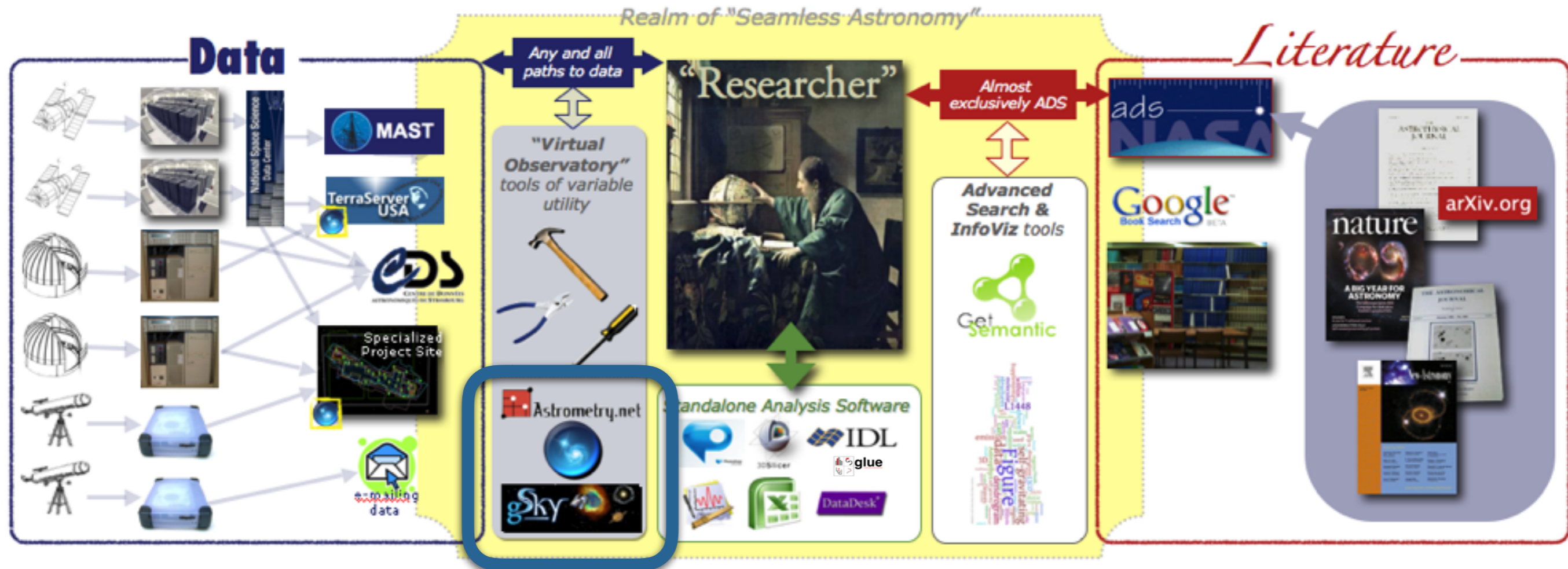


Full-sky virtual astronomy: c. 2024?



SEAMLESS ASTRONOMY

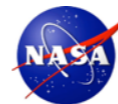
Linking scientific data, publications, and communities



projects.iq.harvard.edu/seamlessastronomy



Microsoft
Research



The World-Wide Telescope

Alexander Szalay,¹ Jim Gray²

All astronomy data and literature will soon be online and accessible via the Internet. The community is building the Virtual Observatory, an organization of this worldwide data into a coherent whole that can be accessed by anyone, in any form, from anywhere. The resulting system will dramatically improve our ability to do multi-spectral and temporal studies that integrate data from multiple instruments. The Virtual Observatory data also provide a wonderful base for teaching astronomy, scientific discovery, and computational science.

Many fields are now coping with a rapidly mounting problem: how to organize, use, and make sense of the enormous amounts of data generated by today's instruments and experiments. The data should be accessible to scientists and educators so that the gap between cutting-edge research and education and public knowledge is minimized and should be presented in a form that will facilitate integrative research. This problem is becoming particularly acute in many fields, notably genomics, neuroscience, and astrophysics. The availability of the Internet is allowing new ideas and concepts for data sharing and use. Here we describe a plan to develop an Internet data resource in astronomy to help address this problem in which, because of the nature of the data and analyses required of them, the data remain widely distributed rather than gathered in one or a few databases (e.g., GenBank). This approach may be applicable to many other fields. Our goal is to make the Internet act as the world's best telescope—a World-Wide Telescope.

Today, there are many impressive archives painstakingly constructed from observations associated with an instrument. The Hubble Space Telescope (HST) (1), the Chandra X-Ray Observatory (2), the Sloan Digital Sky Survey (SDSS) (3), the Two Mi-

cron All Sky Survey (2MASS) (4), and the Digitized Palomar Observatory Sky Survey (DPOSS) (5) are examples of this. Each of these archives is interesting in itself, but temporal and multi-spectral studies require combining data from multiple instruments. Furthermore, yearly advances in electronics bring new instruments, doubling the amount of data we collect each year (Fig. 1). For example, approximately a gigapixel is deployed on all telescopes today, and new gigapixel instruments are under construction. A night's observation requires a few hundred gigabytes of memory. The processed data for a single spectral band over the whole sky, a few terabytes. It is impossible for each astronomer to have a private copy of all the data they use. Many of these new instruments are being used for systematic surveys of our galaxy and of the distant universe. Together they will give us an unprecedented catalog to study the evolving universe, provided that the data can be systematically studied in an integrated fashion.

Online archives already contain raw and derived astronomical observations of billions of objects from both temporal and multi-spectral surveys. Together, they house an order of magnitude more data than any single instrument. In addition, all the astronomy literature is online and is cross-indexed with the observations (6, 7).

Why is it necessary to study the sky in such detail? Celestial objects radiate energy over an

extremely wide range of wavelengths from radio waves to infrared, optical to ultraviolet, x-rays and even gamma rays. Each of these observations carries important information about the nature of the objects. The same physical object can appear to be totally different in different wavebands (Fig. 2). A young spiral galaxy appears as many concentrated "blobs," the so-called HII regions in the ultraviolet, whereas in the optical it appears as smooth spiral arms. A galaxy cluster can only be seen as an aggregation of galaxies in the optical, whereas x-ray observations show the hot and diffuse gas between the galaxies.

The physical processes inside these objects can only be understood by combining observations at several wavelengths. Today, we already have large sky coverage in 10 spectral regions; soon we will have additional data in at least five more bands. These will reside in different archives, making their integration all the more complicated.

Raw astronomy data is complex. It can be in the form of fluxes measured in finite size pixels on the sky, spectra (flux as a function of wavelength), individual photon events, or

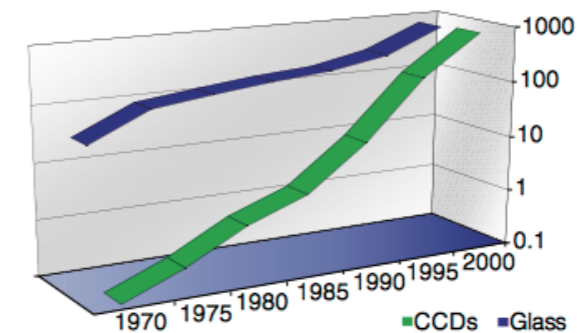


Fig. 1. Telescope area doubles every 25 years, whereas telescope CCD pixels double every 2 years. This rate seems to be accelerating. It implies a yearly data doubling. Huge advances in storage, computing, and communications technologies have enabled the Internet and will enable the Virtual Observatory.

¹The Johns Hopkins University, Baltimore, MD 21218, USA. ²Microsoft Bay Area Research Center, San Francisco, CA, USA.

2001

2007

2014

The World-Wide Telescope

Alexander Szalay, Jim Gray

All astronomy data and literature will soon be online and accessible via the Internet. The community is building the Virtual Observatory, an organization of this worldwide data into a coherent whole that can be accessed by anyone, in any form, from anywhere. The resulting system will dramatically improve our ability to do multi-spectral and temporal studies that integrate data from multiple instruments. The Virtual Observatory data also provide a wonderful base for teaching astronomy, scientific discovery, and computational science.

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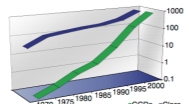
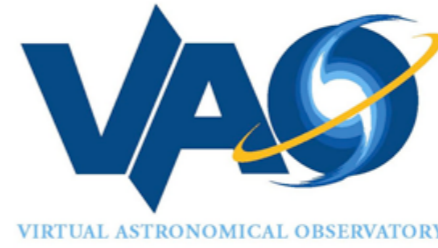
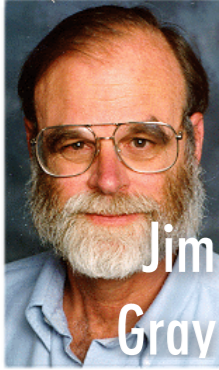
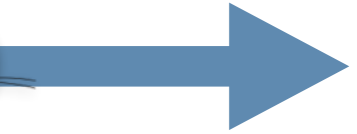


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WorldWideTelescope



... the Universe at your fingertips





Search

English (US)

e.g.: [Galaxy](#), [M31](#), [NGC3628](#), [Mars](#)

[Link to this page](#)

[Print](#)

[Infrared](#) | [Microwave](#) | [Historical](#)



9h 58m 30.0s

68° 49' 11.6"

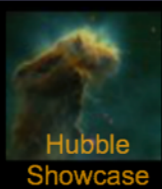
Image Credit: DSS Consortium, SDSS, NASA/ESA ©2015 Google - [Terms of Use](#)



Solar System



Constellation



Hubble Showcase



Backyard Astronomy



Chandra X-Ray Showcase



GALEX Ultraviolet Showcase



Spitzer Infrared Showcase



Earth & Sky Podcasts



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Google Sky

From Wikipedia, the free encyclopedia

Google Sky is a [feature](#) for [Google Earth](#) and an online sky/outer space viewer. It was created on August 27, 2007.^[1] The application allows users to view a collaboration of images from NASA satellites, the [Sloan Digital Sky Survey](#), and the [Hubble Telescope](#).^[2]

It is available on [Android](#) and can be used on a [smartphone](#) as an [augmented reality](#) application.

Contents [hide]

- 1 [Google Earth version](#)
 - 1.1 [Layers](#)
- 2 [External links](#)
- 3 [Sky Map](#)
- 4 [See also](#)
- 5 [References](#)
- 6 [External links](#)

Google Sky



Web address	www.google.com/sky
Type of site	Web mapping
Registration	Yes, with Google Account
Available in	English
Owner	Google
Launched	August 27, 2007
Current status	Active

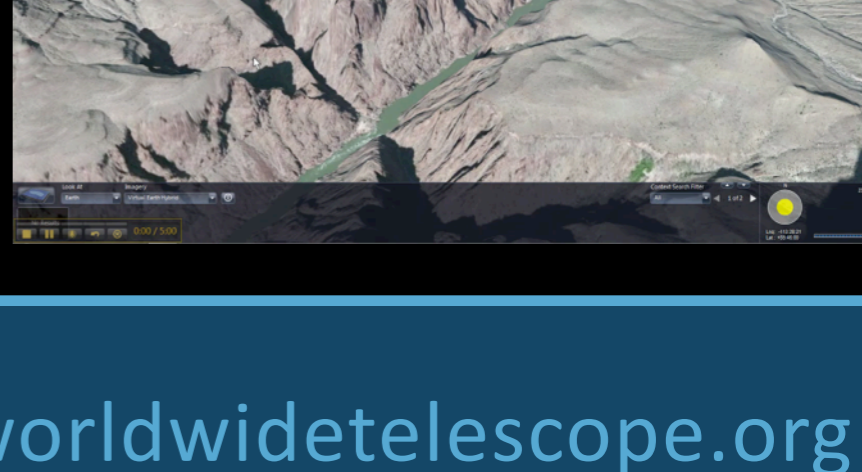
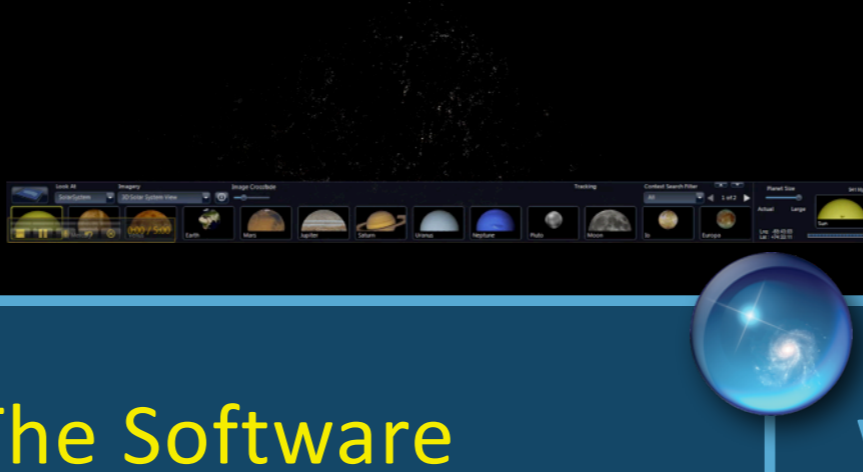
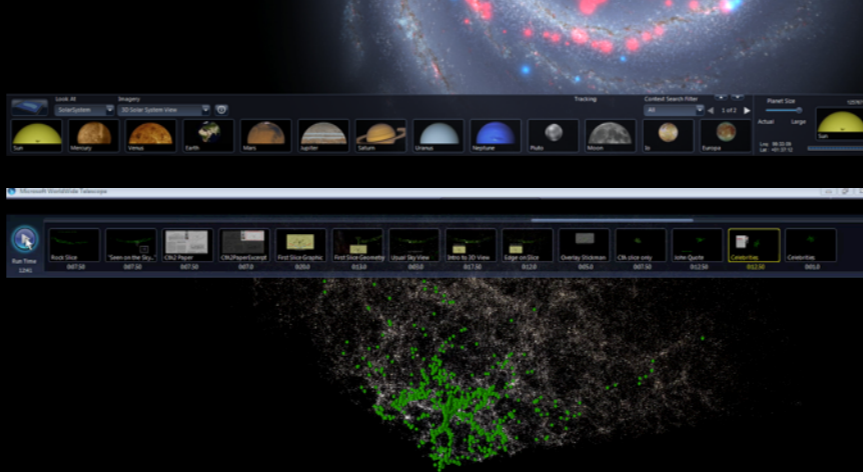
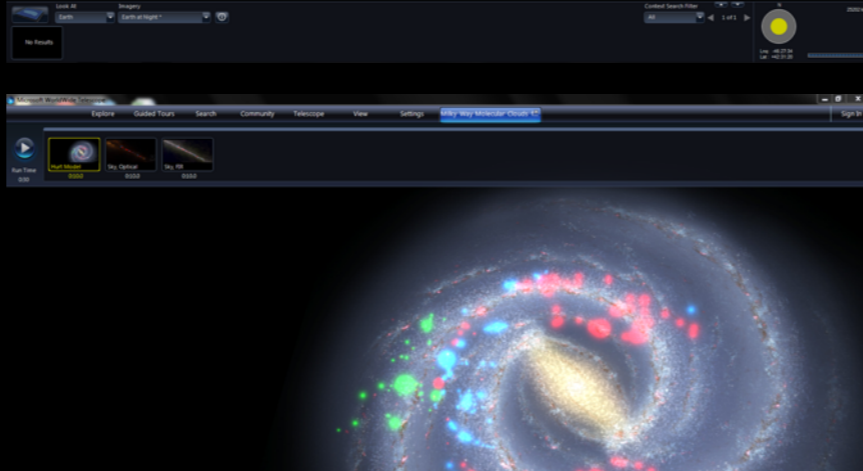
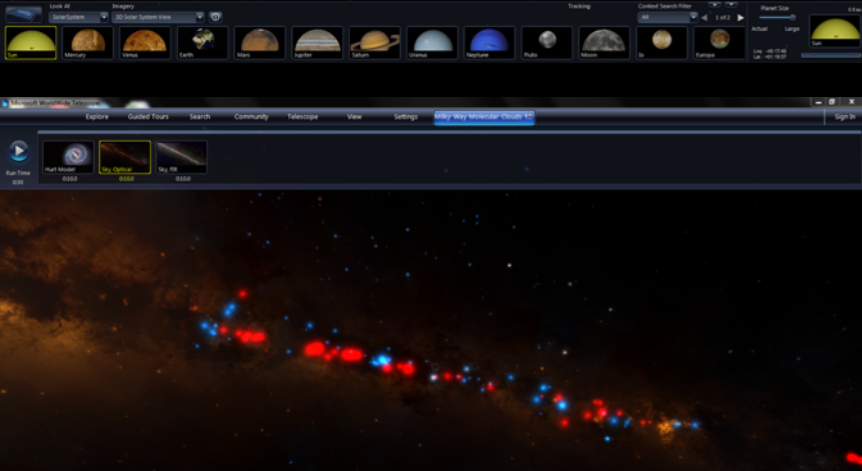
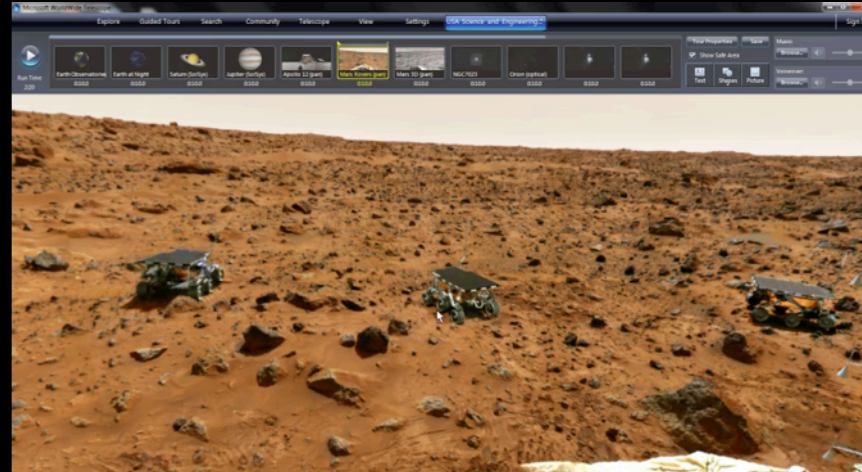
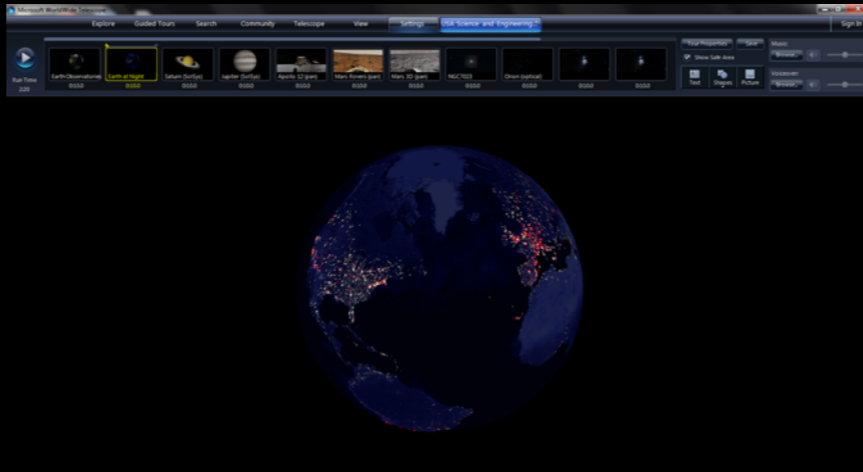
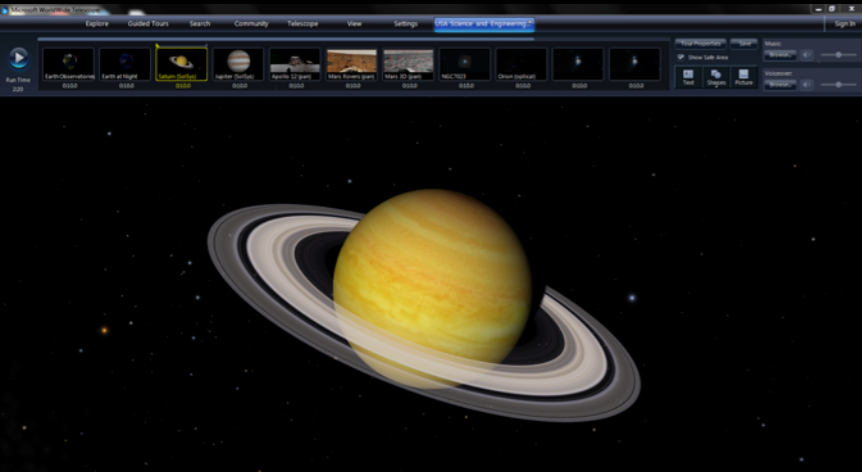
Google

The first Google Sky mode. It is a [virtual globe](#) program called Google Earth. It features a number of layers, similar to the earth Google Earth sphere, with the north and south poles lining up with the two poles in Google Sky. As with other planetarium programs, it is viewed from the inside looking out from the center. It is facing competition from [Microsoft's WorldWide Telescope](#).^[3]

Kevin McLaughlin (May 13, 2008). "Microsoft's Online Telescope Blasts Google Out Of The Sky". *CRN Magazine*. Retrieved March 30, 2011.

Layers [edit]

- **Welcome to Sky:** An introduction to the Sky mode.
- **Current Sky Events**
 - [Earth & Sky Podcasts](#)
 - [Hubblecast](#)
 - [StarData](#) from McDonald Observatory



WorldWide Telescope: **The Software**



worldwidetelescope.org



WorldWide Telescope

A visualization environment that brings together imagery from the world's best ground- and space-based telescopes.

The known universe. <http://www.worldwidetelescope.org/>

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Filters

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People



doctorspaceman



martinwoodward

wwt-web-client

WWT Web Client lets you explore the universe in your browser!

Updated 13 days ago

wwt-windows-client

WorldWide Telescope Windows Application

Updated 17 days ago

wwt-home

This is the hub for all projects that are a part of WorldWide Telescope.

Updated on Oct 15

WorldWideTelescope / wwt-web-client

Watch 25 Star 65 Fork 15

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Raw Blame History

The MIT License (MIT)

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WORLDWIDE TELESCOPE WAS MADE OPEN SOURCE BY MICROSOFT RESEARCH AFTER 7 YEAR, \$10M INVESTMENT

Search GitHub Pull requests Issues Gist

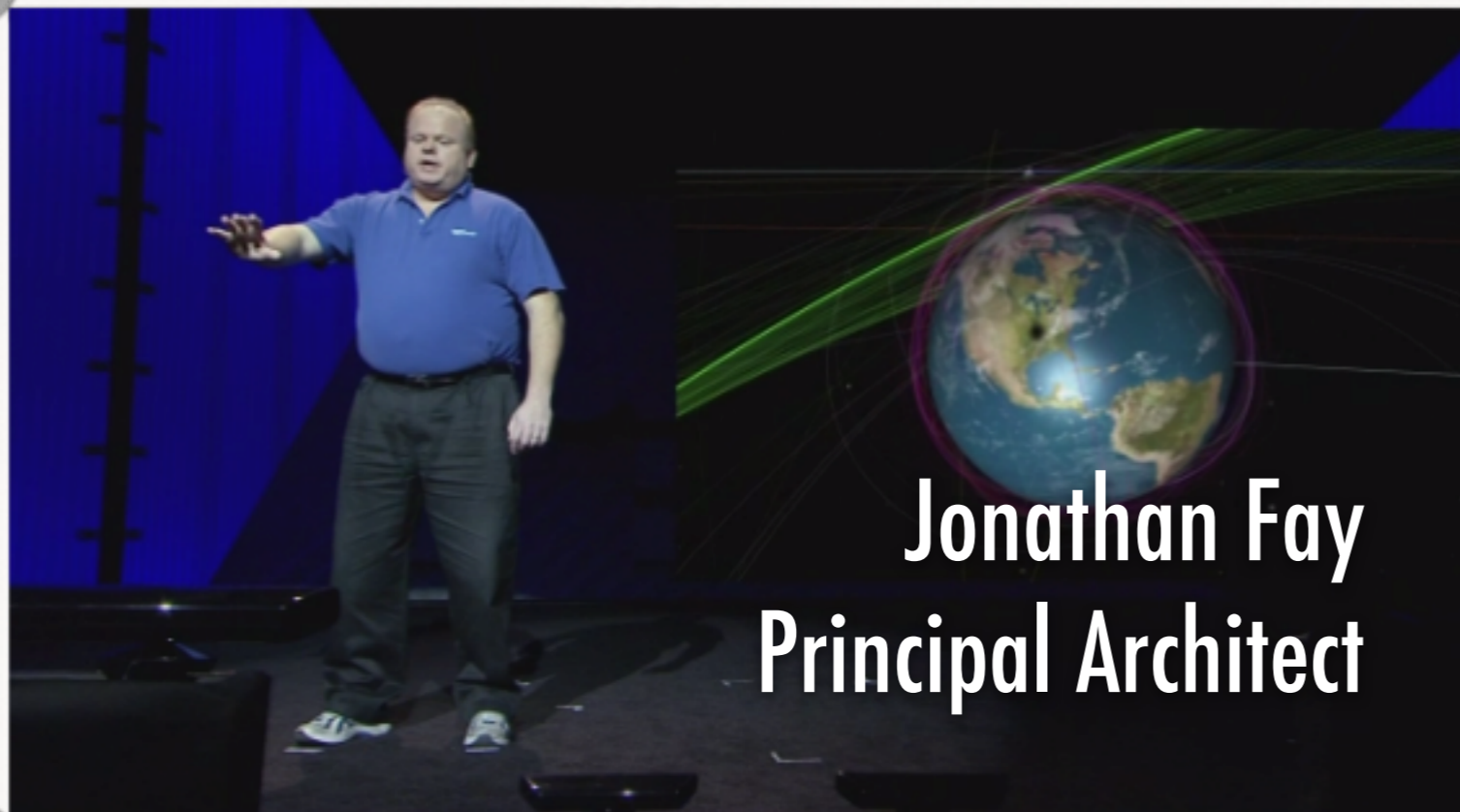
 **WorldWide Telescope** ⓘ
A visualization environment that brings together imagery from the world's best ground- and space-based telescopes.
📍 The known universe. 🔗 <http://www.worldwidetelescope.org/>

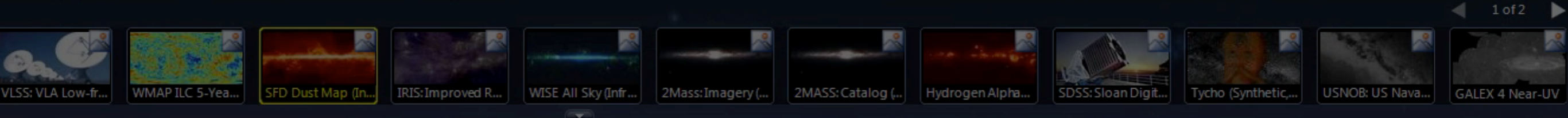
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What can

WorldWide Telescope do?

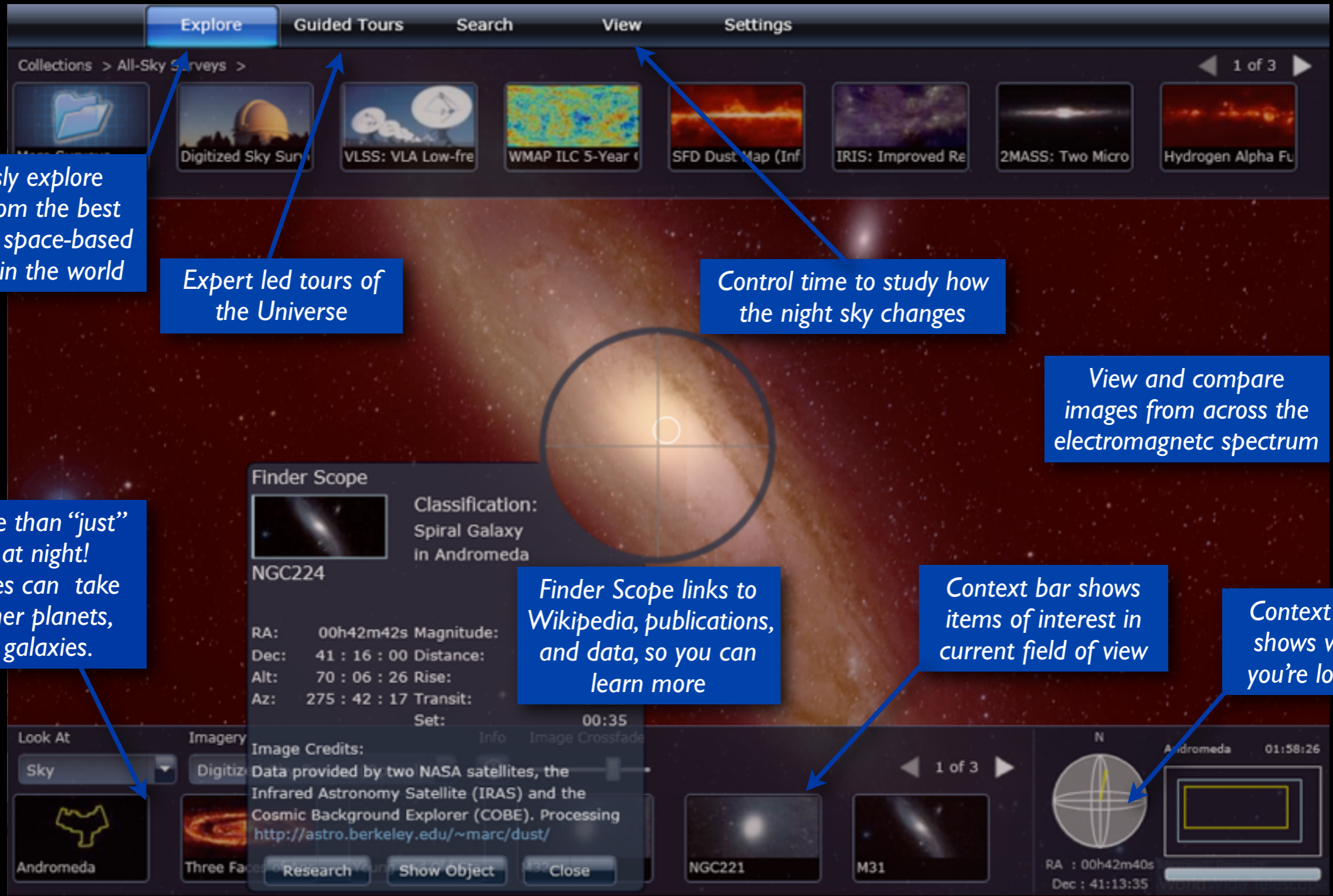
for **me**?



Image Crossfade v. 2015.1 Context Search Filter

Io Europa Ganymede Callisto Moon Phases Tut... Aug 1, 2008 Eclip... Phases of the Mo... The Apollo Progr... L.R.O. Camera Lunar Recon. Orb... L.R.O. Lunar Reconnaiss...

RA: 05h45m11s Dec: -00:17:23 Orion 60:00:00



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Finder Scope links to Wikipedia, publications, and data, so you can learn more

Context bar shows items of interest in current field of view

Context globe shows where you're looking.



WorldWide Telescope Web Client

www.worldwidetelescope.org/webclient/

WorldWide Telescope Web Client

Explore Guided Tours Search View Settings

m31 J2000 RA Dec Go

Three Faces of Andromeda M31

Classification: Spiral Galaxy
 Constellation: Andromeda
 Names: M31

RA:	00h42m42s	Rise:	06 : 02
Dec:	+41 : 16 : 00	Transit:	15 : 41
Alt:	48 : 47 : 16	Set:	01 : 23
Az:	71 : 46 : 30		

Image Credit

Look At Sky Imagery Digitized Sky Survey (Color)

Image Crossfade Research Show Object Bing

Tracking Andromeda Galaxy 1 of 2

Andromeda 01:53:45

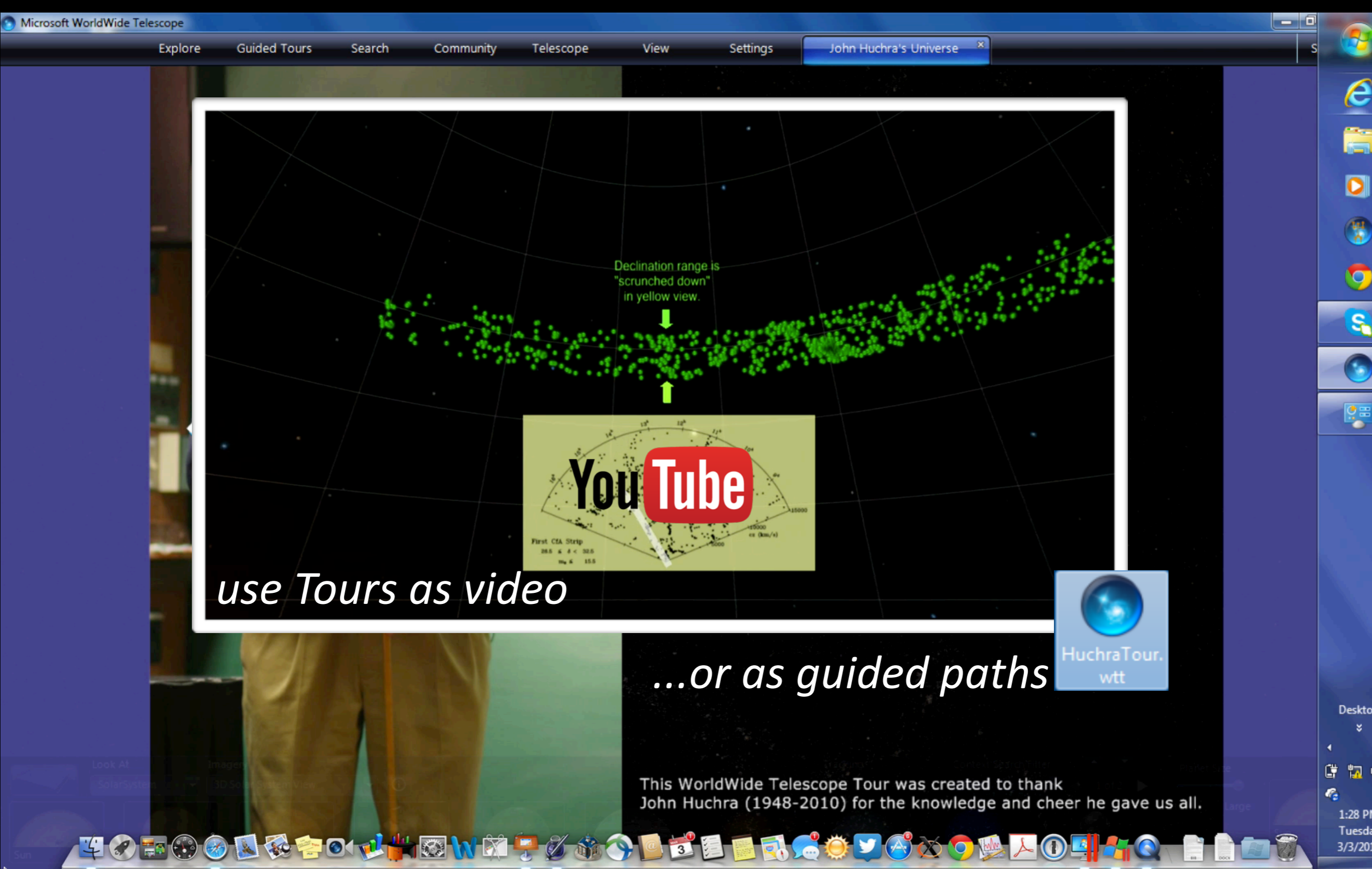
RA: 00h43m09s
Dec: +41:12:54

Three Faces of Young and Old Andromeda Andromeda Andromeda Andromeda M31 M32 M110



WorldWide Telescope: The Sky on the Web

worldwidetelescope.org



use Tours as video

...or as guided paths

This WorldWide Telescope Tour was created to thank John Huchra (1948-2010) for the knowledge and cheer he gave us all.

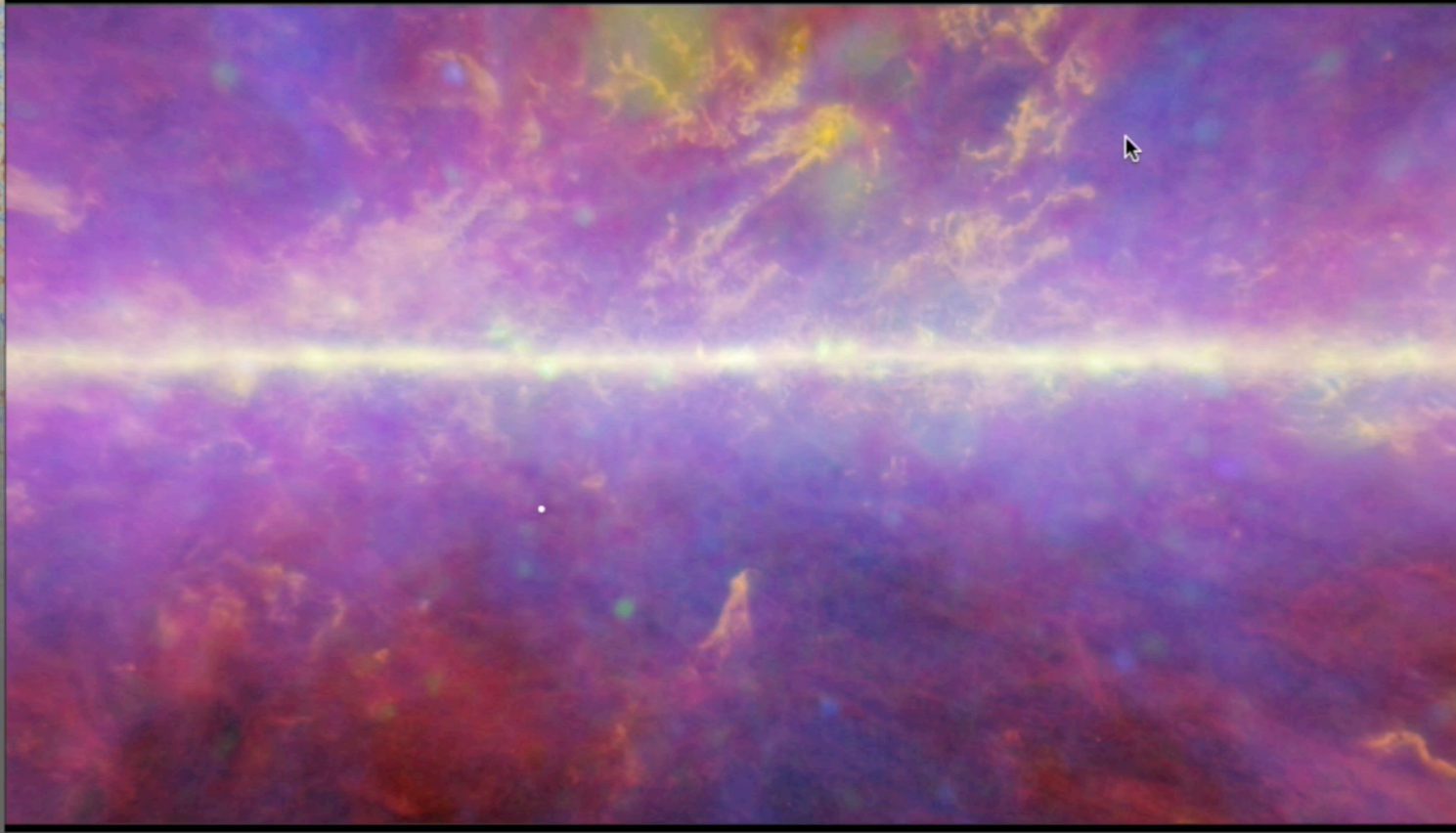
PLANCK

U.S. DATA CENTER AT IPAC

ABOUT NEWS GALLERY FOR RESEARCHERS



Interactive Planck Data Viewer (WorldWide Telescope)



- Galactic Plane Mode
- Galactic Grid
- Equatorial Grid
- Constellation Figures

Background

Planck Thermal Dust

Our Milky Way galaxy is filled with sooty particles of

Foreground

Planck Dust & Gas

A composite view of our Milky Way displays a



Finder Scope

Classification: Spiral Galaxy
Constellation: Andromeda
Names: M31

RA: Name: M31 00h42m42s Rise: 17:58
 Dec: +41:16:00 Transit: 03:40
 Alt: 07:35:39 Set: 13:19
 Az: Imagery 21:13:02

Image Credit
 Don J. McCrady

Set as Background Imagery
 Set as Foreground Imagery

Research Show Object Bing Q

WorldWide Telescope Web Client

Explore Guided Tours Search View Settings

m31

Three Faces of Andromeda M31

DS Article

Classification: Spiral Galaxy
Constellation: Andromeda
Names: Andromeda Galaxy, M31, Messier 31, NGC 206, M32, M110

RA: 00h42m29s Rise: 18:24
 Dec: +41:17:03 Transit: 04:07
 Alt: 10:48:47 Set: 13:46
 Az: 317:20:25

Image Credit
 Don J. McCrady

Research Show Object Bing Q

Look At: sky Imagery: Digitized Sky Survey (color)

Tracking M31

1 of 2

Andromeda 01:50:29

RA: 00h42m42s Dec: +41:16:00

WorldWide Telescope Web Client

Andromeda Galaxy - Wikipedia, the free encyclopedia

Object Query Results

Explore Guided Tours Search View Settings

m31

Three Faces of Andromeda M31

WorldWide Telescope Web Client

Explore Guided Tours Search View Settings

m31

Three Faces of Andromeda M31

MPAD D

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Image Credit
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Research Show Object Bing Q

Look At: sky Imagery: Digitized Sky Survey (color)

Tracking M31

1 of 2

Andromeda 01:50:29

RA: 00h42m42s Dec: +41:16:00

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Tracking M31

1 of 2

Andromeda 01:50:29

RA: 00h42m42s Dec: +41:16:00

WorldWide Telescope: Data ↔ Literature

Web or Windows: "right-click"





[View in Aladin](#) • [View in WorldWide Telescope](#) • [Demo Videos](#)

ADS All-Sky survey on Al... ADS All-Sky survey on Wor... Untitled SIMBAD basic query result Advanced query - Advanc...

www.adsass.org/wwt/?ra=345.42886923995724&dec=56.80696913940664&fov=118.07887634625072&layer=harvard

The ADS All Sky Survey [Open Aladin version](#) Astronomy articles. In the sky.

CHOOSE HEATMAP

Object: All Stars Galaxies HII regions Nebulae Other

Band: Radio Infrared Ultraviolet X-ray

Custom: Harvard/All

Year:


Show Sources

Go to...

BACKGROUND LAYER

Optical: 2MASS WISE SFD IRIS GLIMPSE H-alpha ROSAT

Optical: Harvard/All



$(\alpha, \delta) = 83.66^\circ, -5.39^\circ$ FOV = 17°

ADS All-Sky Survey is a NASA-funded project



Region: In Perseus and Taurus

ads
NASA

α (2000) 3h 38m 14s, δ (2000) +31° 25'

α (1875) 3h 30m 30s, δ (1875) +31° 00'

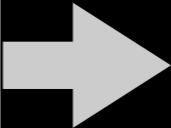
Area
In Perseus and Taurus

Galactic Coordinates
127°, -18°

Scale
1 cm = 18'.2 or 1 in = 46'.2

Chart
Table
Plate & Chart
Text

enlarge [+] printable PDF



Bar-p1-p003_sm
Bernard's Image of Perseus,
www.library.gatech.edu/spd

December 1

astrometry.net
Hello, this is the blind astrometry solver.
Your results are: (RA, Dec) center:
(54.3096782184, 31.43266374) degrees
Orientation: 5.2134989764 deg E of N
Pixel scale: 18.56371997 arcseconds
Your field contains: NGC 1465 IC 1985 C
Per / Ask o Per 42Per 42Per NGC 1333
IC 348 IC 2003 View in World Wide
Telescope: — If you would like to have
other images solved, please submit
them to the astrometry group.

astrometry (group)

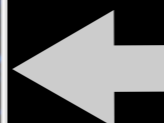


Explore Guided Tours Search View Settings

ADS ALL SKY SURVEY

Info Image Coordinates

Perseus 11:02:24



Explore Guided Tours Search View Settings

Info Image Coordinates

Perseus 11:02:24

The "Paper" of the Future

Alyssa Goodman, Josh Peek, Alberto Accomazzi, Chris Beaumont, Christine L. Borgman, How-Huan Hope Chen, Merce Crosas, Christopher Erdmann, August Muench, Alberto Pepe, Curtis Wong

Re-arrange authors

A 5-minute video demonstration of this paper is available at [this YouTube link](#).

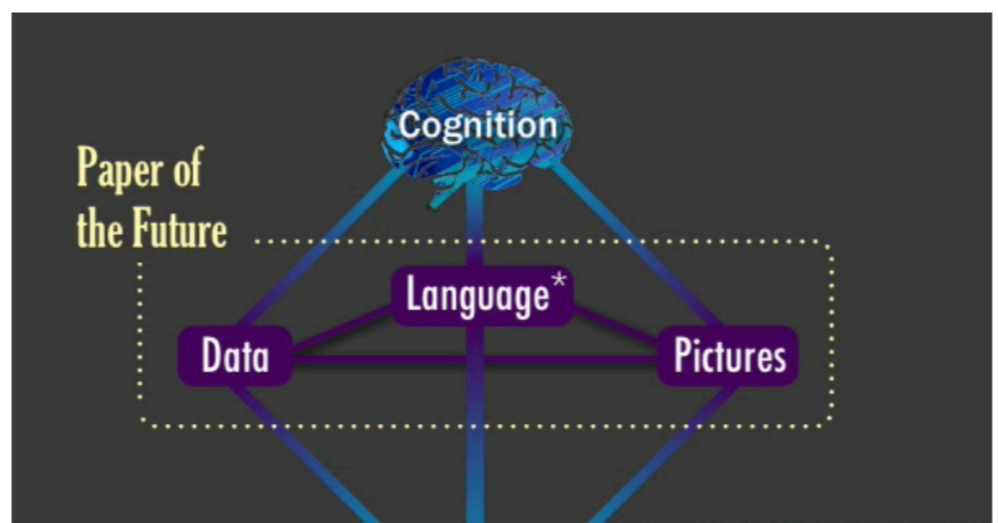
1 Preamble

A variety of research on human cognition demonstrates that humans learn and communicate best when more than one processing system (e.g. visual, auditory, touch) is used. And, related research also shows that, no matter how technical the material, most humans also retain and process information best when they can put a narrative "story" to it. So, when considering the future of scholarly communication, we should be careful not to do blithely away with the linear narrative format that articles and books have followed for centuries: instead, we should enrich it.

Much more than text is used to communicate in Science. Figures, which include images, diagrams, graphs, charts, and more, have enriched scholarly articles since the time of Galileo, and ever-growing volumes of data underpin most scientific papers. When scientists communicate face-to-face, as in talks or small discussions, these figures are often the focus of the conversation. In the best discussions, scientists have the ability to manipulate the figures, and to access underlying data, in real-time, so as to test out various what-if scenarios, and to explain findings more clearly. **This short article explains—and shows with demonstrations—how scholarly "papers" can morph into long-lasting rich records of scientific discourse**, enriched with deep data and code linkages, interactive figures, audio, video, and commenting.

Insert Insert Figure Edit Delete Lock

- Index
Preamble
Pof1
Collaborative authoring
Comparison table
Linking data
Question
Dvn
Zenodo
Linking and executing ...
Rho oph
Better storytelling
Audio
Video
Enhanced figures
Interactivity
Index
3d in 2d
Nature screen shot
Images in context
Barnardsample
Deeper easier citations



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SEARCH TERM(S):

ophiuchus

CONTENT TYPE:

Images

YEAR RANGE:

2004 - 2015

SEARCH TERM(S)

Enter search term(s)

PUBLICATIONS ▶

- The Astronomical Journal 230
- The Astrophysical Journal 1,049
- The Astrophysical Journal Letters 55
- The Astrophysical Journal Supplement Series 330

YEAR RANGE: 2004 - 2015

1995 2015

CONTENT TYPE

Images (1,664) Videos (0)

Figure sets (3)

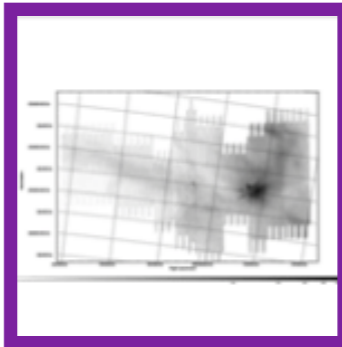
AUTHOR

1664 images found

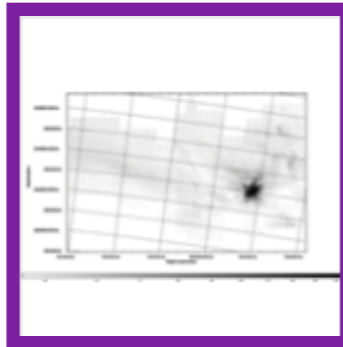
Term(s) to search within

SHOW: 25

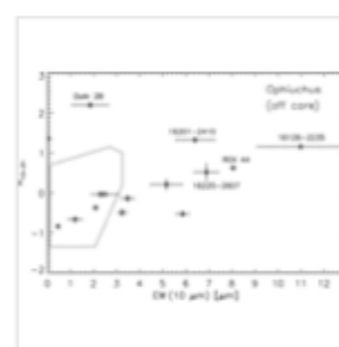
1 of 67



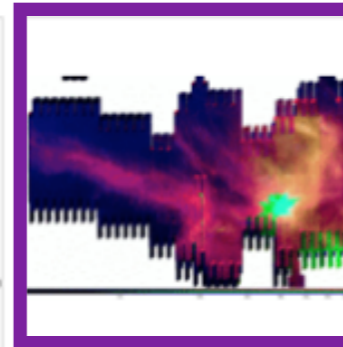
Spitzer MIPS 70 μm mosaic of **Ophiuchus**



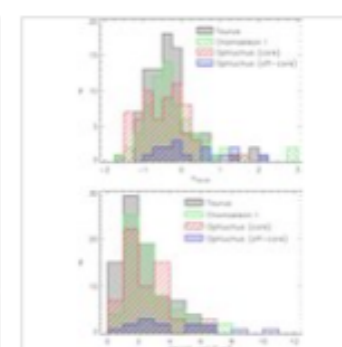
Spitzer MIPS 24 μm mosaic of **Ophiuchus**



Same as Figure 10, but for the **Ophiuchus** off-co...



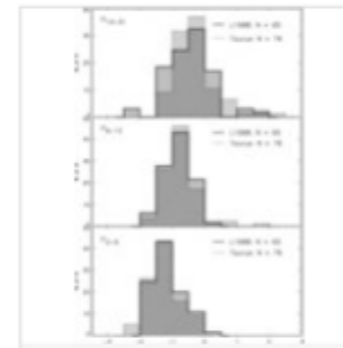
A 24 (blue), 70 (green), and 160 μm (red) mosai...



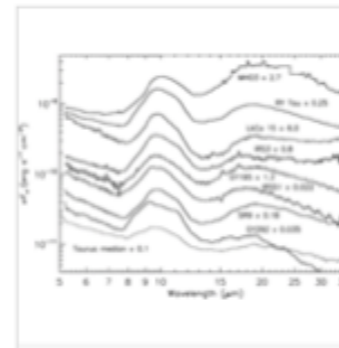
Histograms for the distribution of n13-31 and



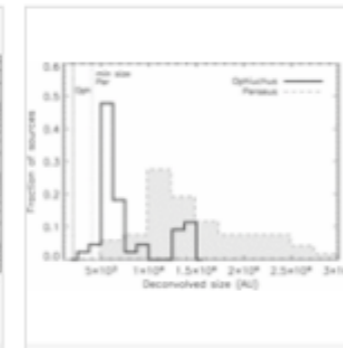
SEDs of WTTS disks in **Ophiuchus**.



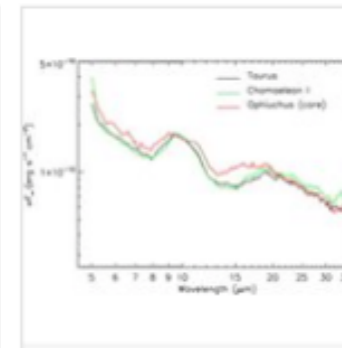
Distribution of n13-31 values for samples in th...



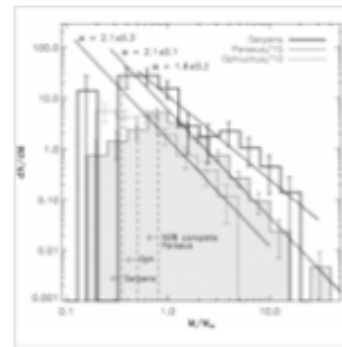
Most prominent outliers in terms of EW(10 μm) i...



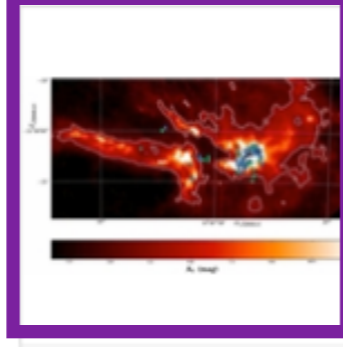
Comparison of the distribution of sizes of



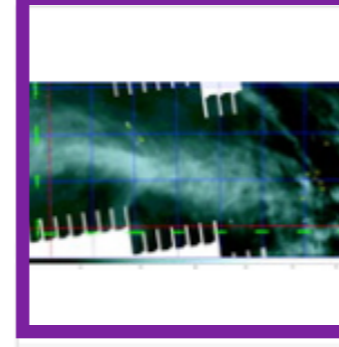
Median IRS spectra for Taurus, the **Ophiuchus** co...



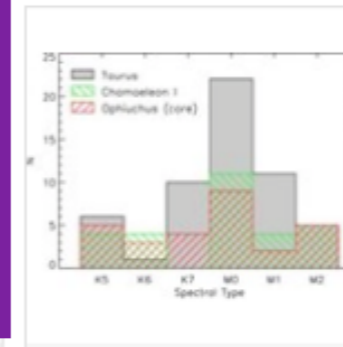
Comparison of the differential CMDs of



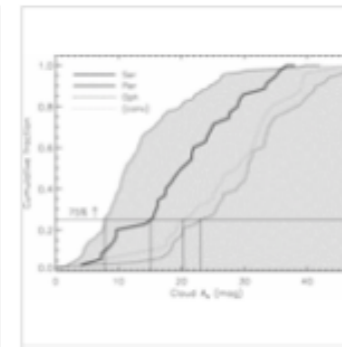
Location of the YSO (blue circles) and candidat...



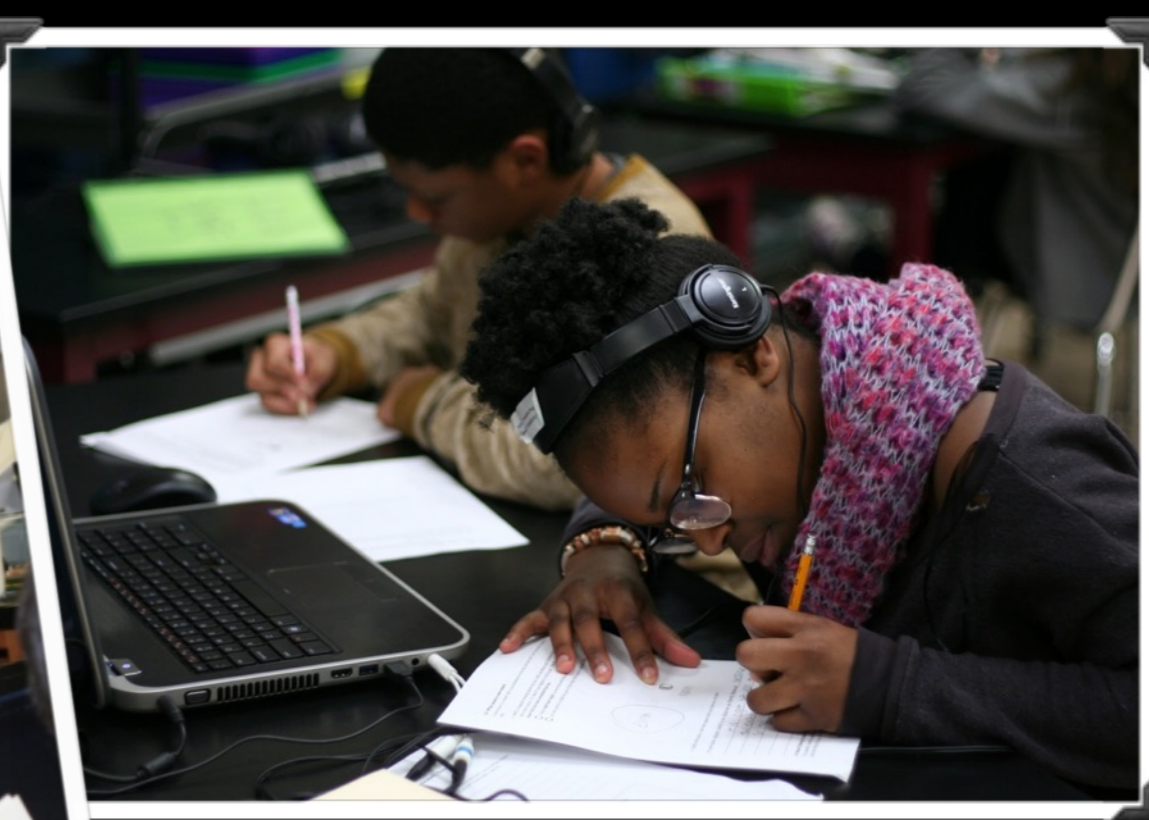
High-resolution map of the **Ophiuchus** Streamer a...



Histogram for the distribution of spectral

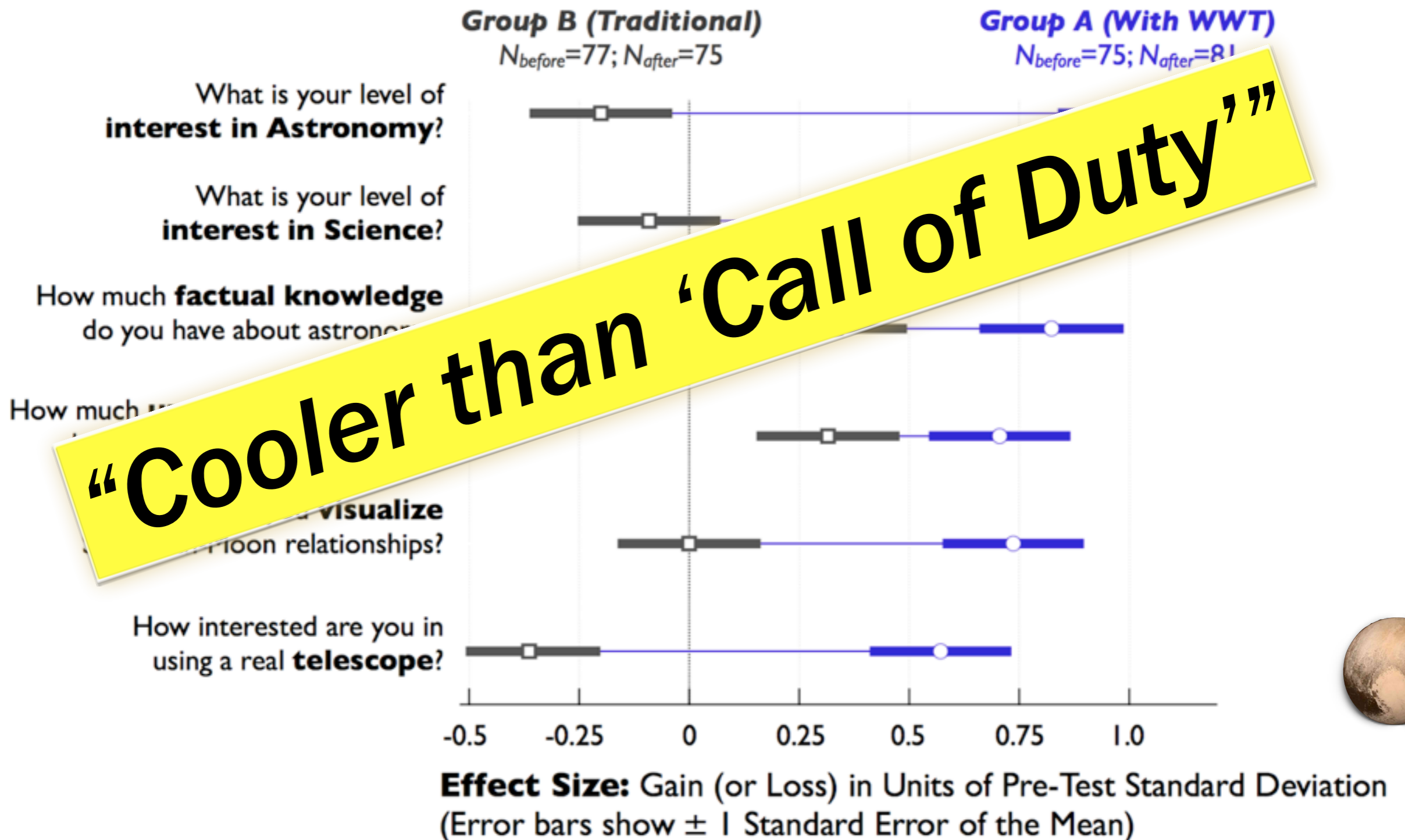


Cumulative fraction of 1.1 mm cores as a functi...



GAINS IN STUDENT INTEREST AND UNDERSTANDING

("Traditional Way" vs "WWT Way")





WorldWide Telescope Ambassadors Program

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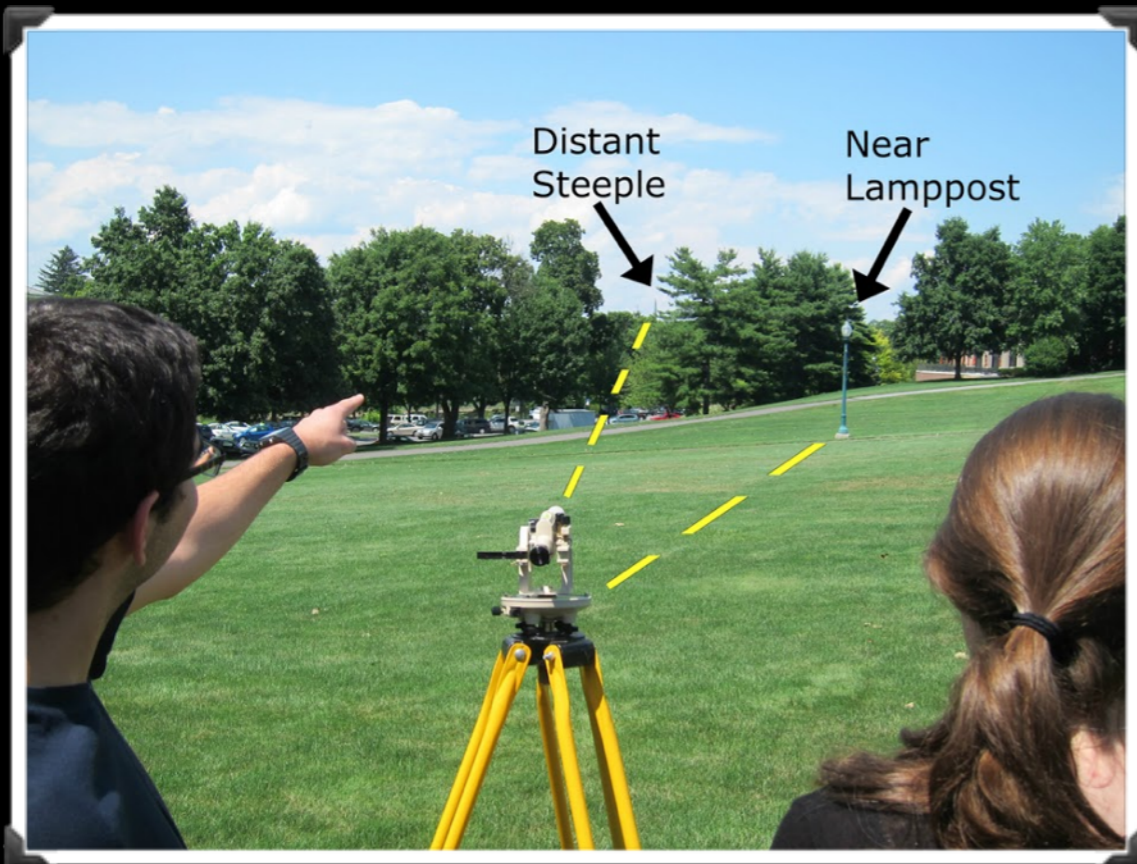


LIFE IN THE
UNIVERSE

wwtambassadors.org



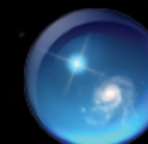
John
Templeton
Foundation



Shift the view between our perspective (Yellow dot) and that of our friend 6 pcs away (Green dot) to see how the shape of the Big Dipper appears to change.

Click here to reset slide


Click here to continue



WWT screenshot from Parallax Lab

GRAD STUDENT LEARNING MODULES

- ORIGINS
- EVOLUTION
- RESULTS
- WHAT'S NEXT?
- PEOPLE



The course structure is such a success that the Harvard Astronomy Department adopts a requirement of all graduate students to create an online outreach project to explain their PhD Thesis work to general audiences. Creating a WorldWide Telescope tours to describe research is a great way students can share their projects with large audiences for years to come.



Discover Your Universe

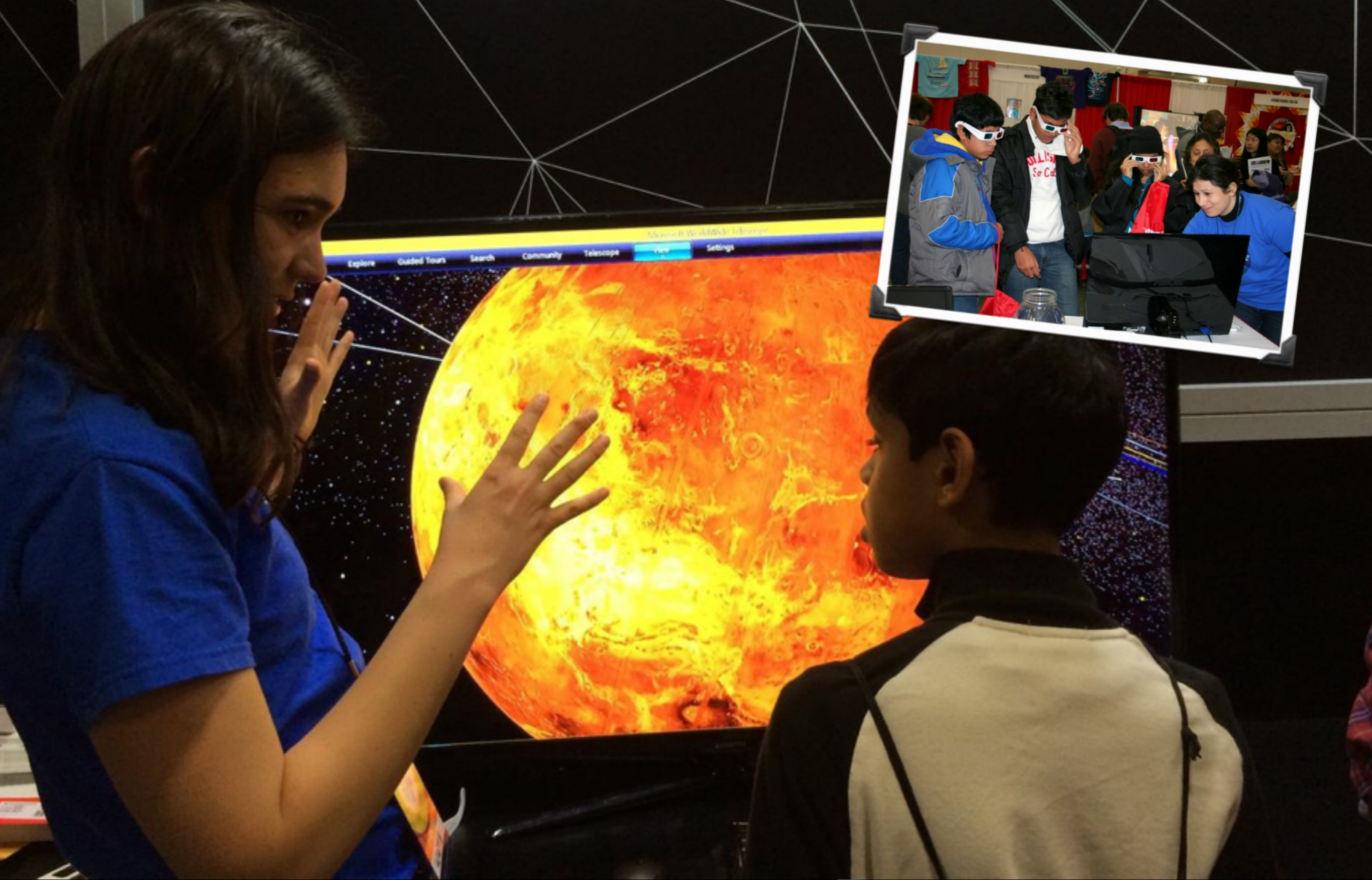
Choose a topic to launch an interactive tour

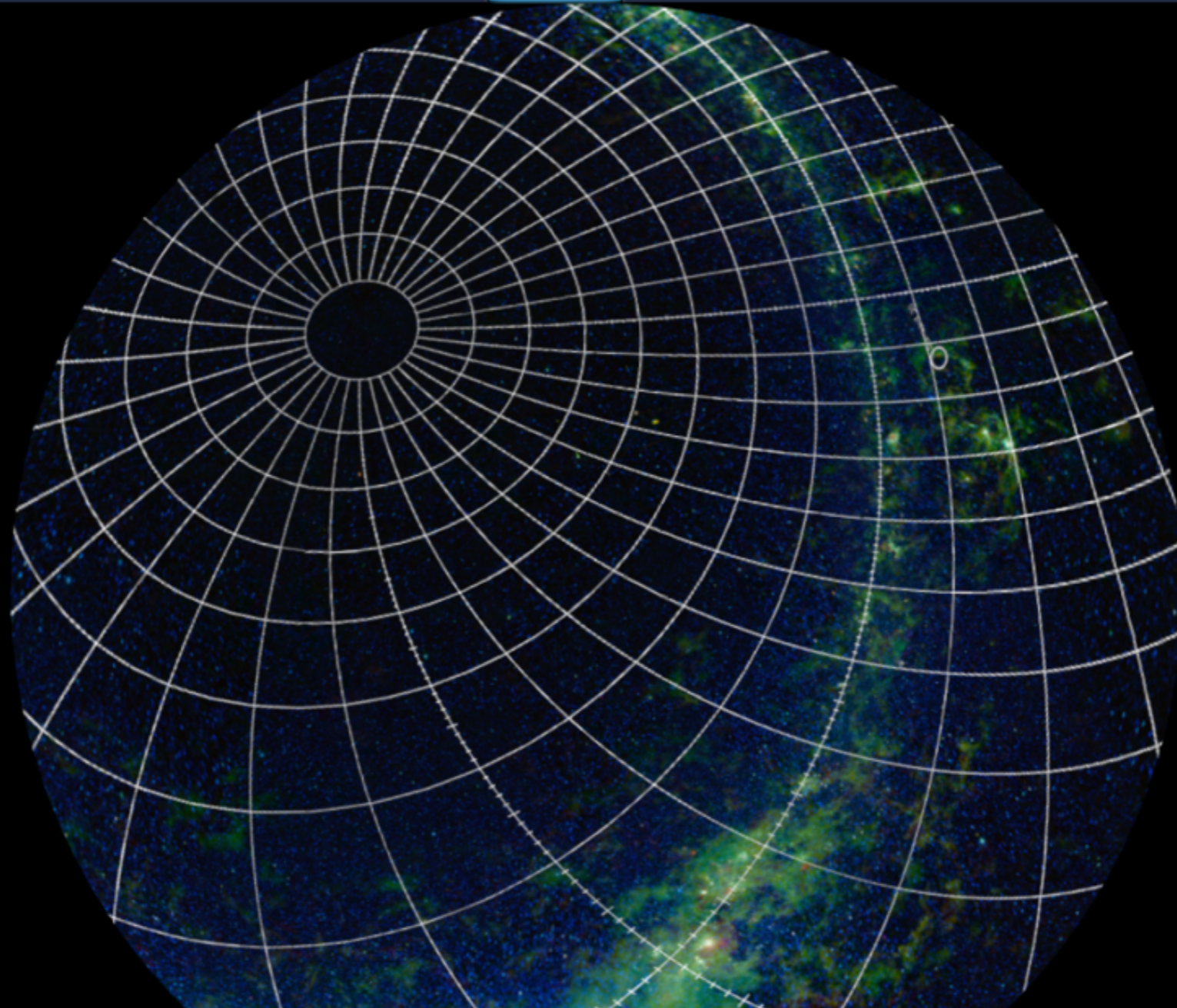
- MANY GENERATIONS OF STARS
- GALAXIES COLLIDE!
- A BUBBLING UNIVERSE & PROF. JOHN HUCHRA
- WORLDS BEYOND OUR OWN
- GALILEO & JUPITER'S MOONS
- EARTHQUAKES REVEALED

Discover Your Universe at Harvard

edukiosks.harvard.edu

HILT | Microsoft Research





Look At: Sky | Imagery: WISE All Sky (Infrared) | Context Search Filter: All | 1 of 33

Orion Nebula | Orion Nebula | Orion Nebula | Barnard 30 | **Barnard 30** | Barnard 30 520 | Abell 520 | Messier 42 | Hubble Probes th... | Orion Nebula (N...

RA: 09h36m 16s | Dec: -61:36:28 | Carina 22:40:03



WorldWide Telescope: Planetariums



COSMIC WONDER



WorldWide Telescope: **Planetariums**

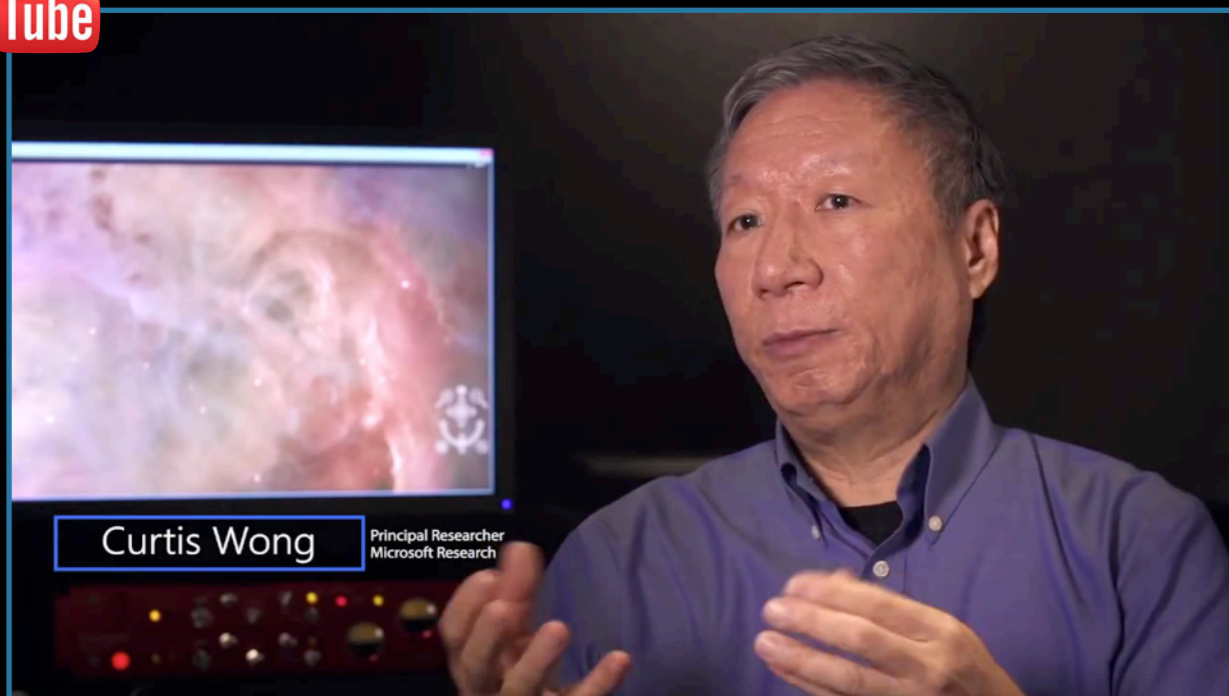


[adlerplanetarium.org/
shows/cosmic-wonder](http://adlerplanetarium.org/shows/cosmic-wonder)

WorldWide Telescope Stories

STORIES OF WORLDWIDE TELESCOPE IN ACTION

YouTube

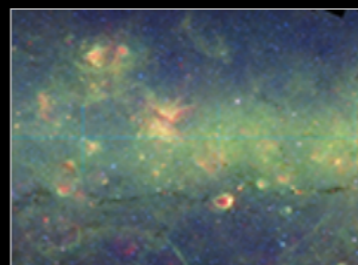


@openwwt 

 facebook.com/openwwt

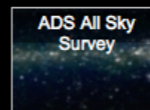
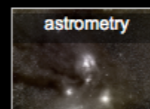
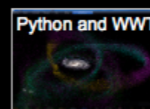
worldwidetelescope.org 

RESEARCH



MILKY WAY BONES

More Stories...



OUTREACH



cosmic wonder

More Stories...

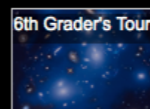


K12



WWT MOON PHASES

More Stories...

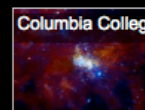
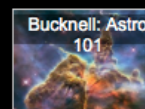


UNIVERSITY



GRAD STUDENT LEARNING MODULES

More Stories...



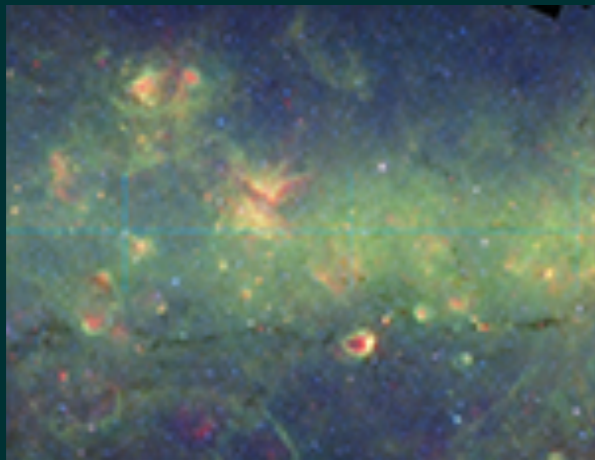
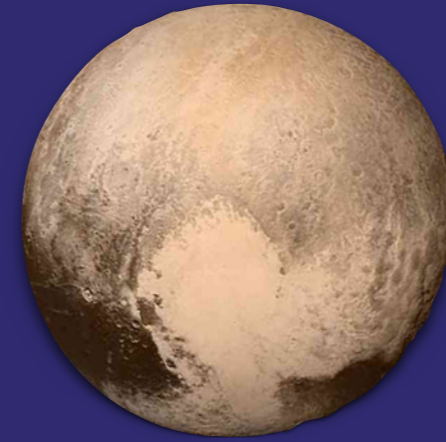
WORLDWIDE TELESCOPE WEBSITE • WWT AMBASSADORS WEBSITE

WorldWide Telescope: **Learn more...**

wwtstories.org

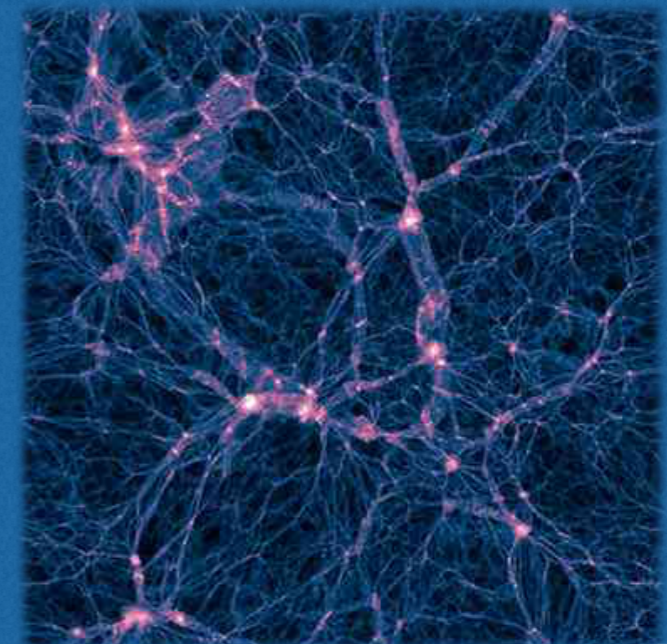


WHERE IS PLUTO AND WHY
ISN'T A 'PLANET' ANYMORE?



WHAT IS THE TRUE NATURE OF THE
STRUCTURE OF THE MILKY WAY?"

DOES THE ILLUSTRIS SIMULATION
OUTPUT RESEMBLE OBSERVED
LARGE-SCALE STRUCTURE IN THE
DISTRIBUTION OF LUMINOUS GALAXIES?



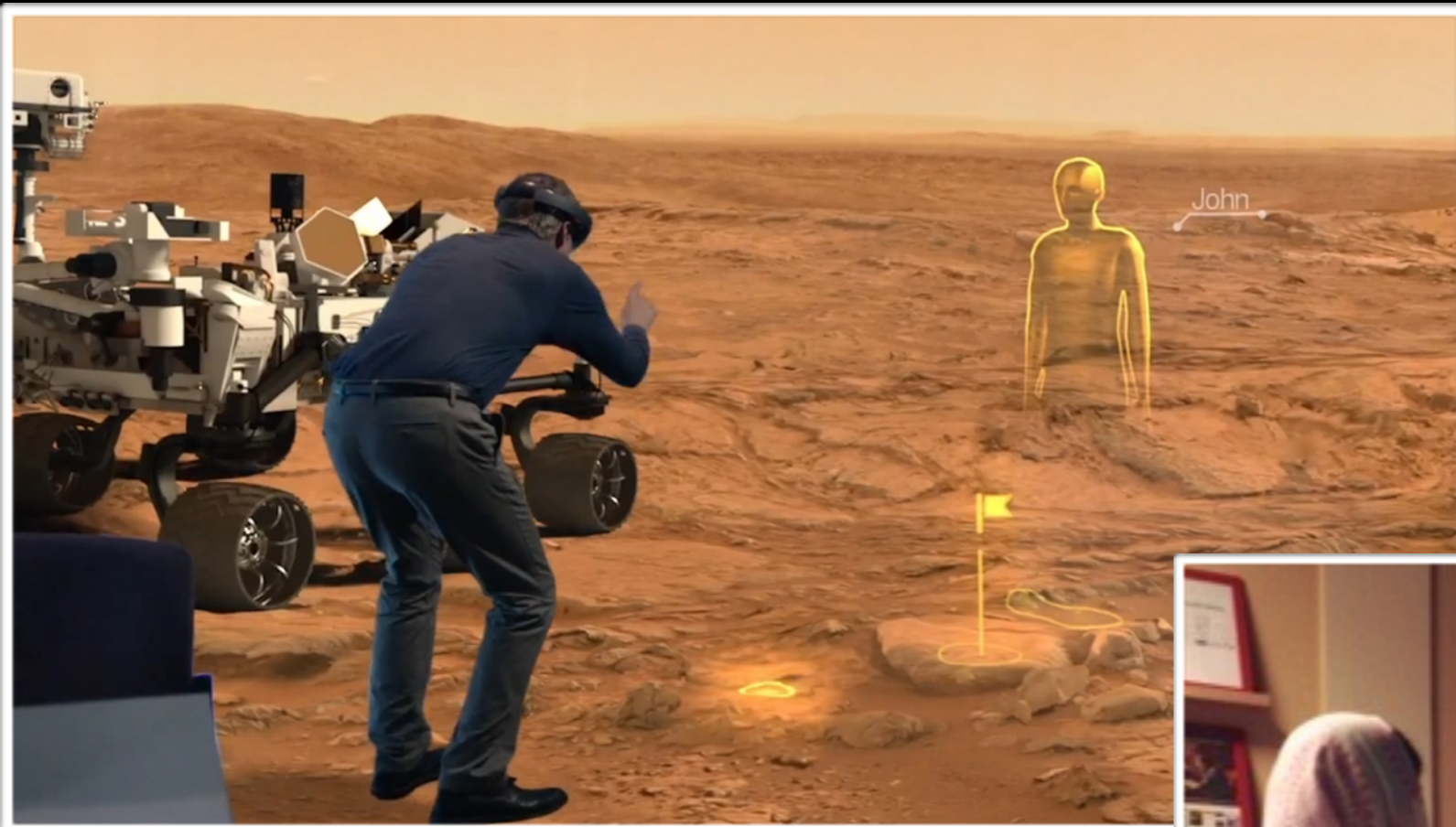
ILLUSTRIS



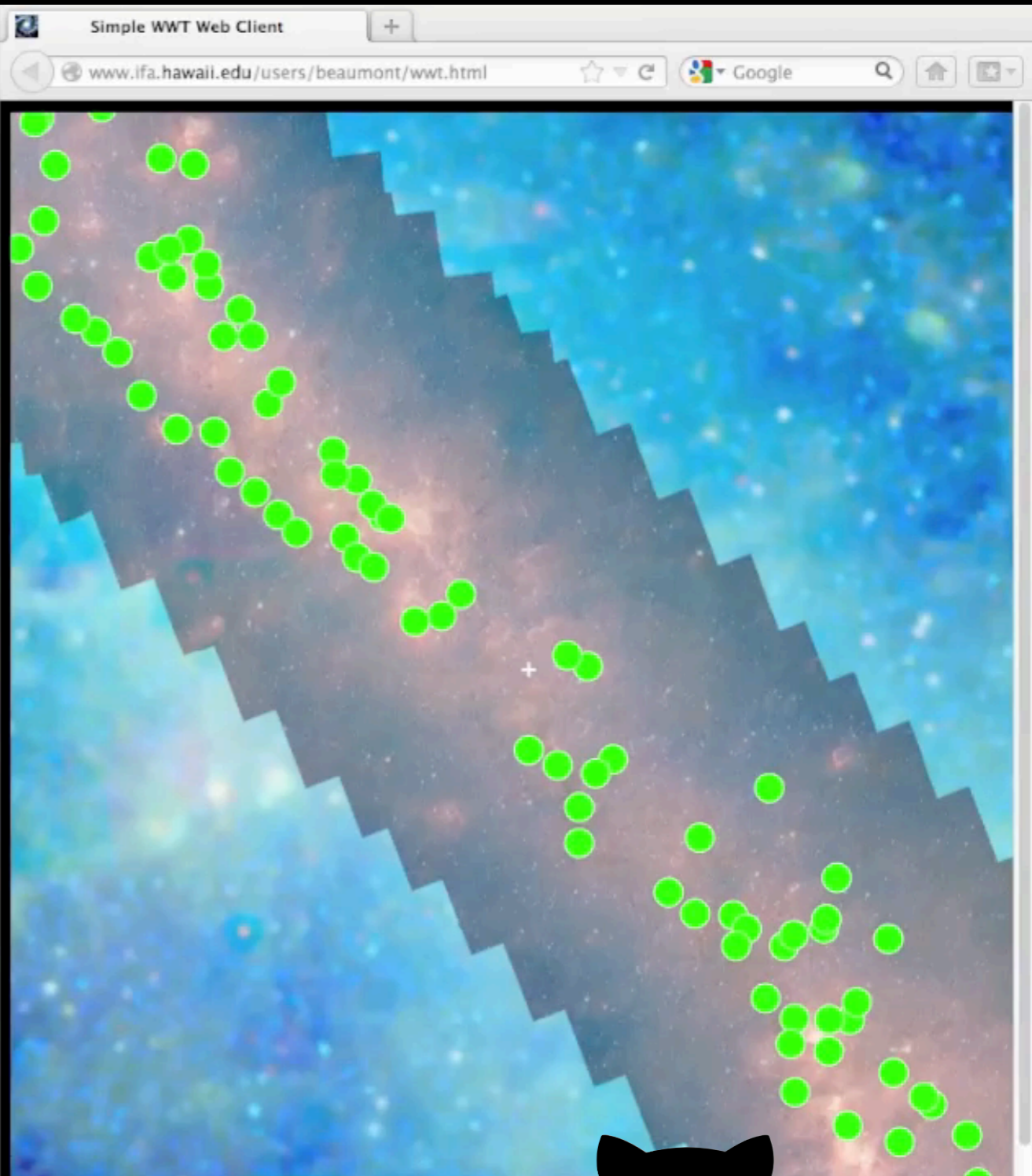
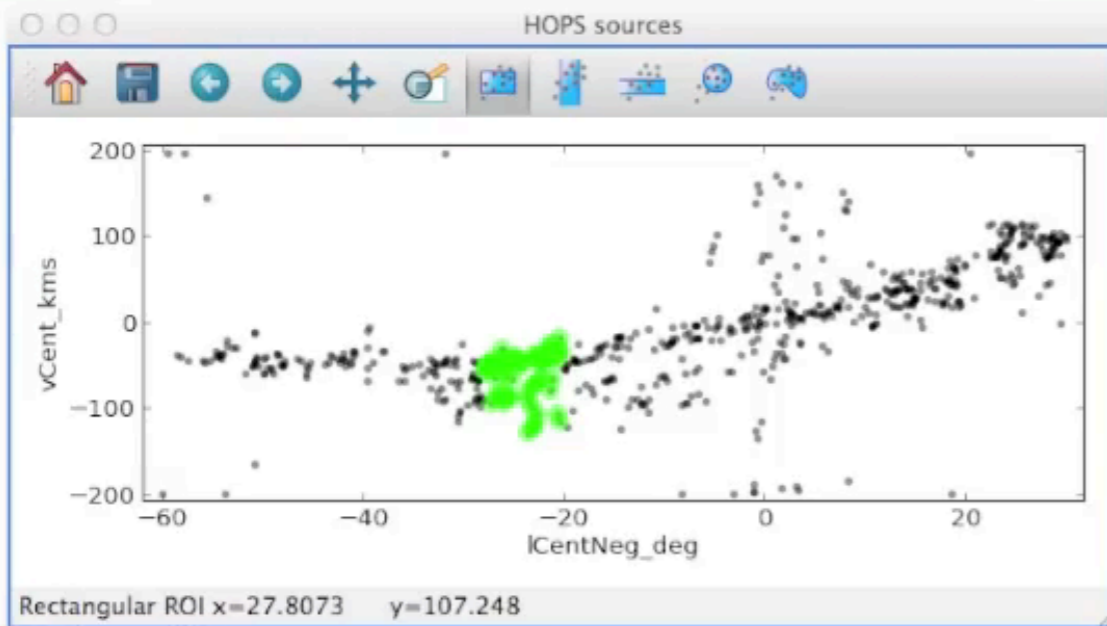
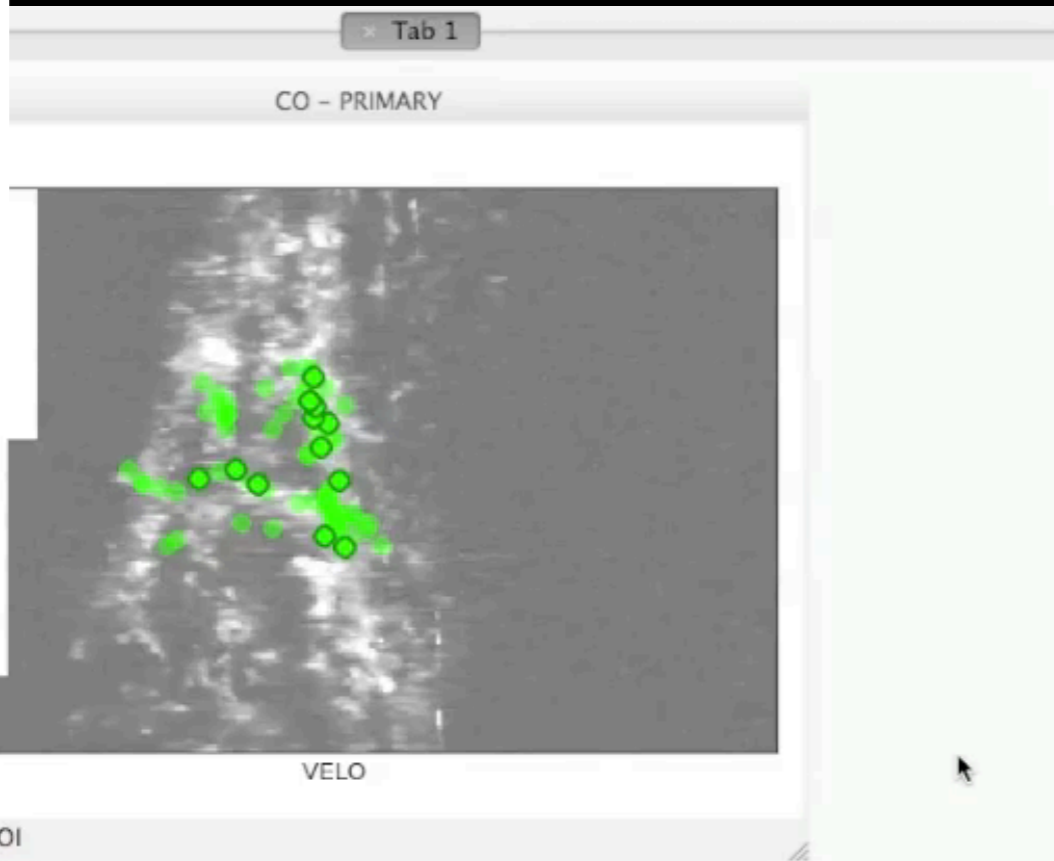
Time since the Big Bang: 12.8 billion years

naturevideo

[demo]

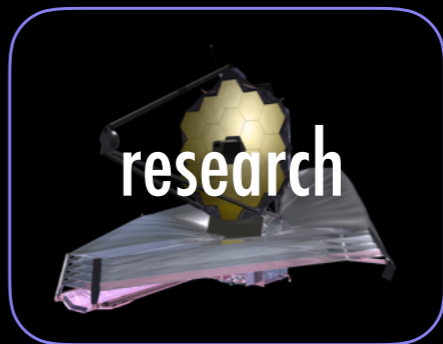


WorldWide Telescope: **The Future**



WorldWide Telescope: **OpenWWT!**

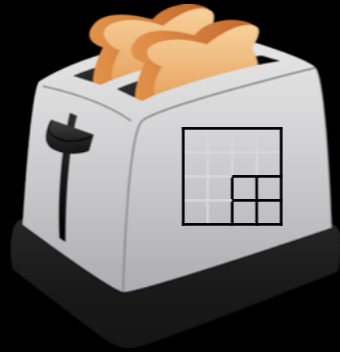
WHO?



WHAT?

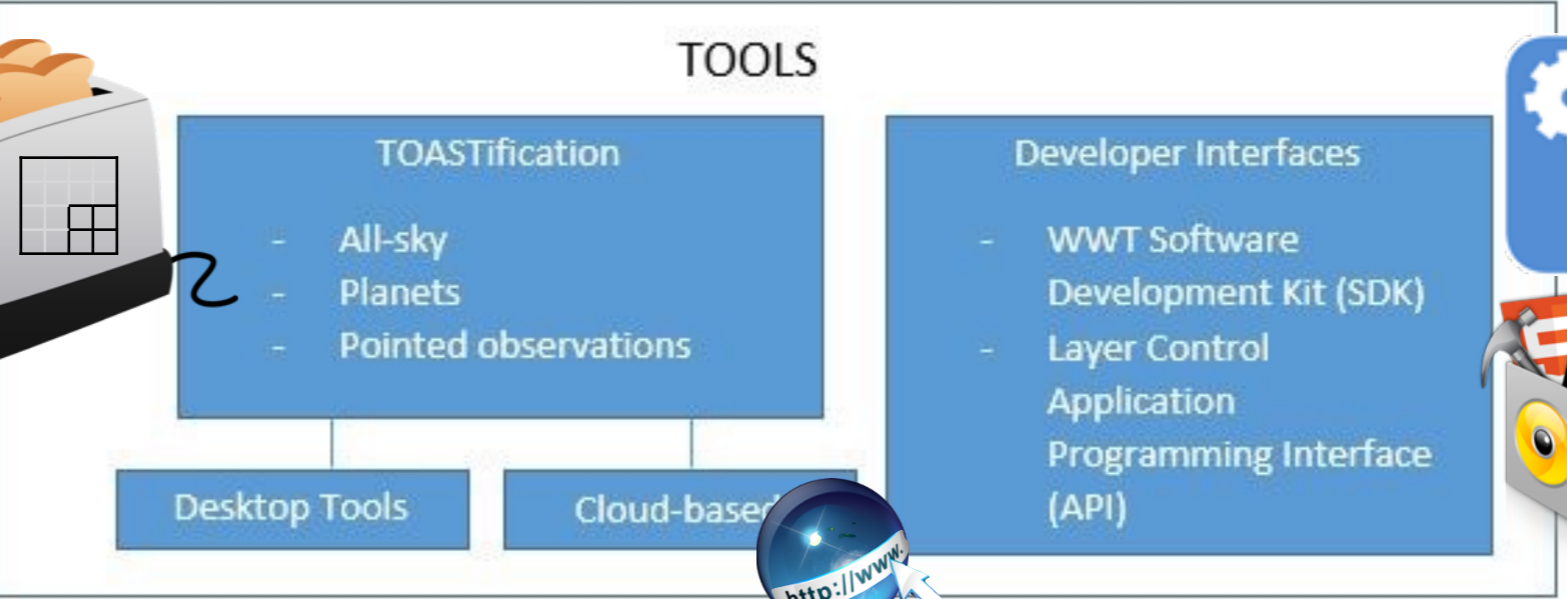
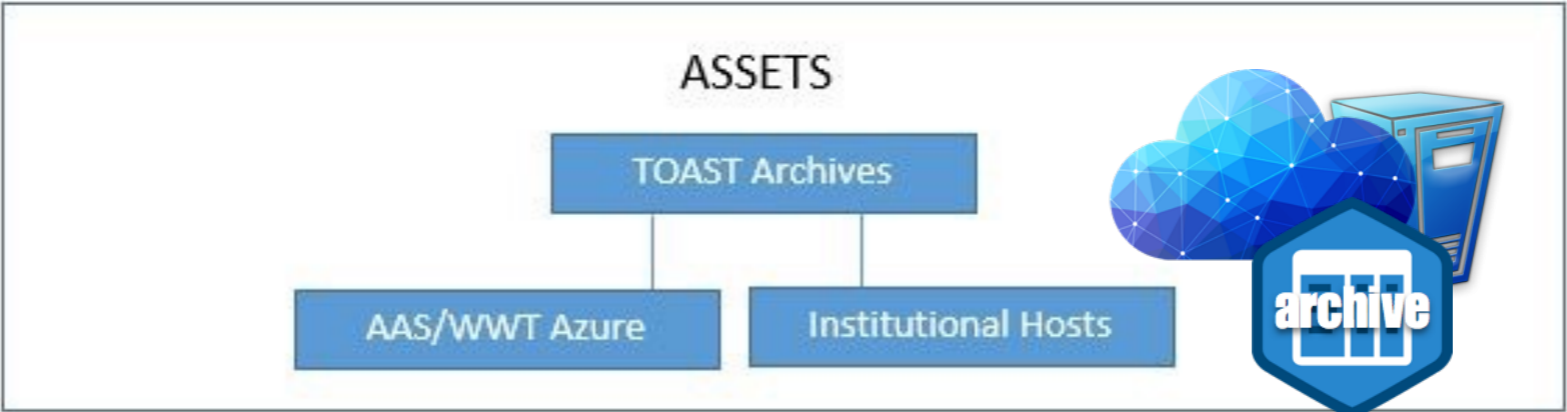


HOW?



WHERE?





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AAS AMERICAN ASTRONOMICAL SOCIETY
[ask January 4, 2016!]
Enhancing and sharing humanity's scientific understanding of the universe since 1899.

Staff @ Host Institution



Open-Source Development (Consortium + ...)

THE FUTURE?



[according to James Vasile, a.k.a. "Gonzo"]

THE FUTURE?



[according to James Vasile, a.k.a. "Gonzo"]

Google



Your
scheme
here





WorldWide Telescope SDK Overview

[Developers Overview](#)

[WWT SDK](#)

[HTML5 Control SDK](#)

[Layer Control API](#)

[Data Files Reference](#)

[Data Tools Guide](#)

[Projection Reference](#)

[Import Image](#)