



With NASA Airborne Astronomy Ambassadors

Jeff Killebrew

Science Teacher: New Mexico School for the Blind and Visually Impaired

Michael Shinabery

Education Specialist: New Mexico Museum of Space History

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SOFIA Science Center

Stratospheric Observatory for Infrared Astronomy



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SOFIA Airborne Astronomy Ambassadors Program

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Airborne Astronomy Ambassadors Program

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About the Airborne Astronomy Ambassadors program

The Stratospheric Observatory for Infrared Astronomy (SOFIA) mission is responsible to NASA for conducting an Education and Public Outreach program that exploits the unique attributes of airborne astronomy to contribute to national goals for the reform of science, technology, engineering, and math (STEM) education, and to the elevation of public scientific and technical literacy.

SOFIA's Airborne Astronomy Ambassadors (AAA) effort is a professional development program aspiring to improve teaching, inspire students, and inform the community. It builds upon the legacy of NASA's highly successful FOSTER (Flight Opportunities for Science Teacher EnRicement) program that flew educators aboard the Kuiper Airborne Observatory (KAO) from 1990 – 1995.



May 26, 2011 Flight: Mary Blessing.

www.sofia.usra.edu

www.seti.org/sofia





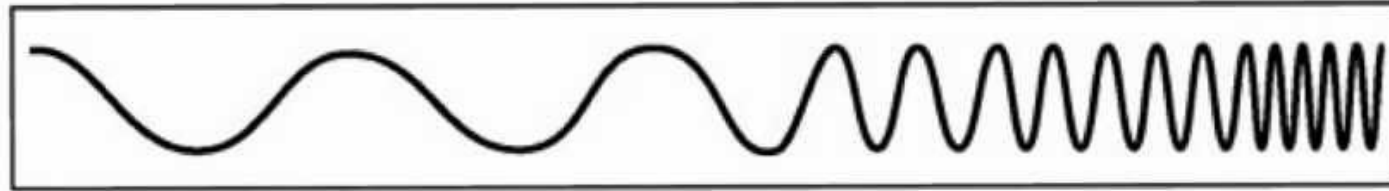
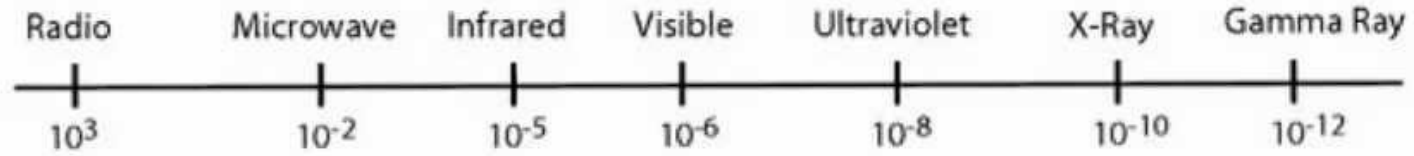
“The Universe is a very, very,
colorful place.

It’s even more colorful when
you look at what you can’t see.”

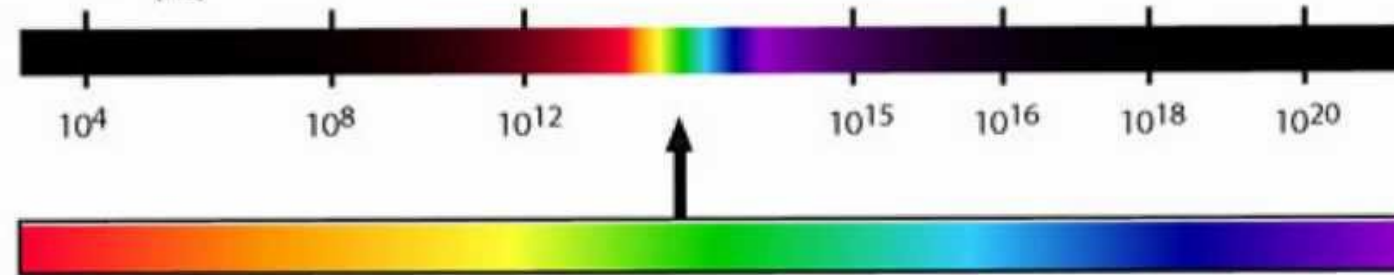
Mike Shinabery

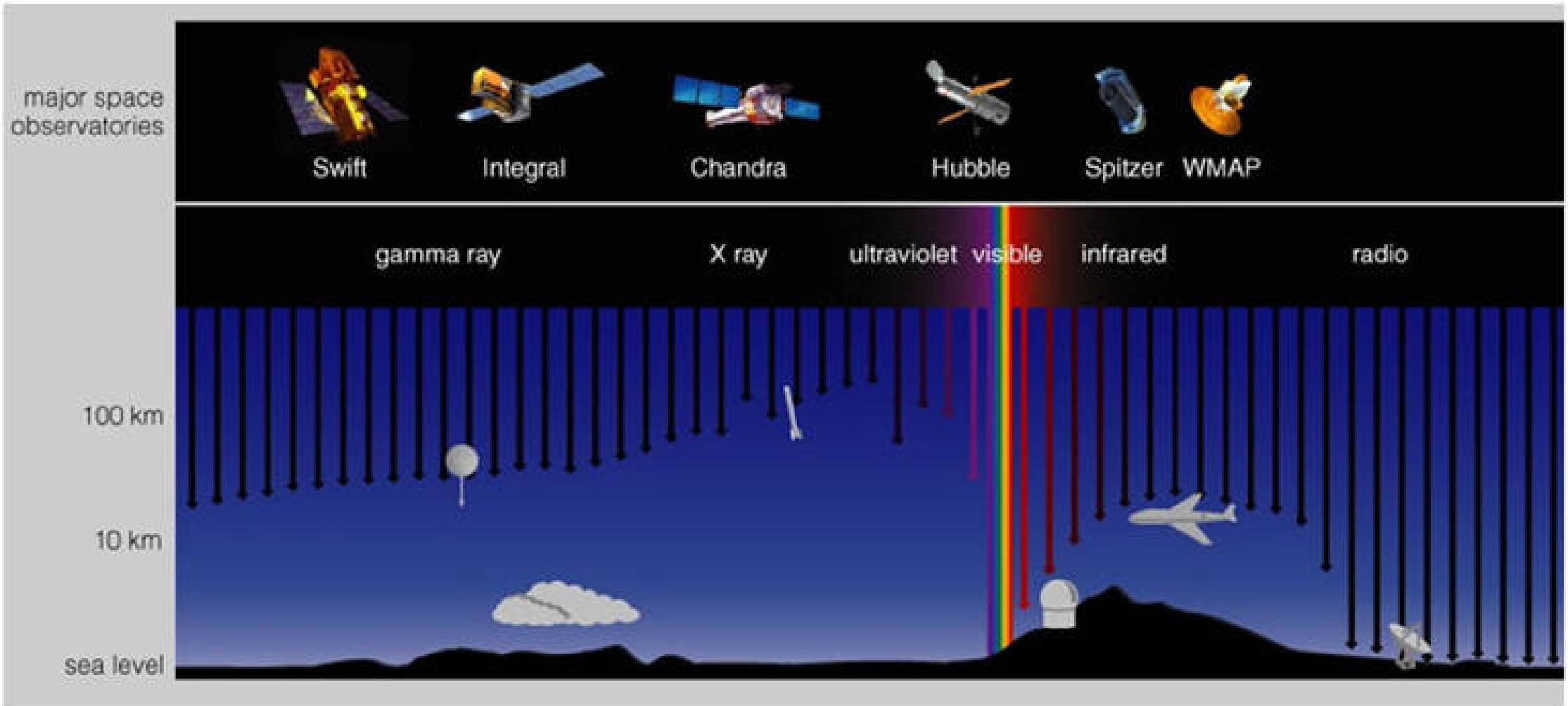
THE ELECTRO MAGNETIC SPECTRUM

Wavelength
(metres)



Frequency
(Hz)













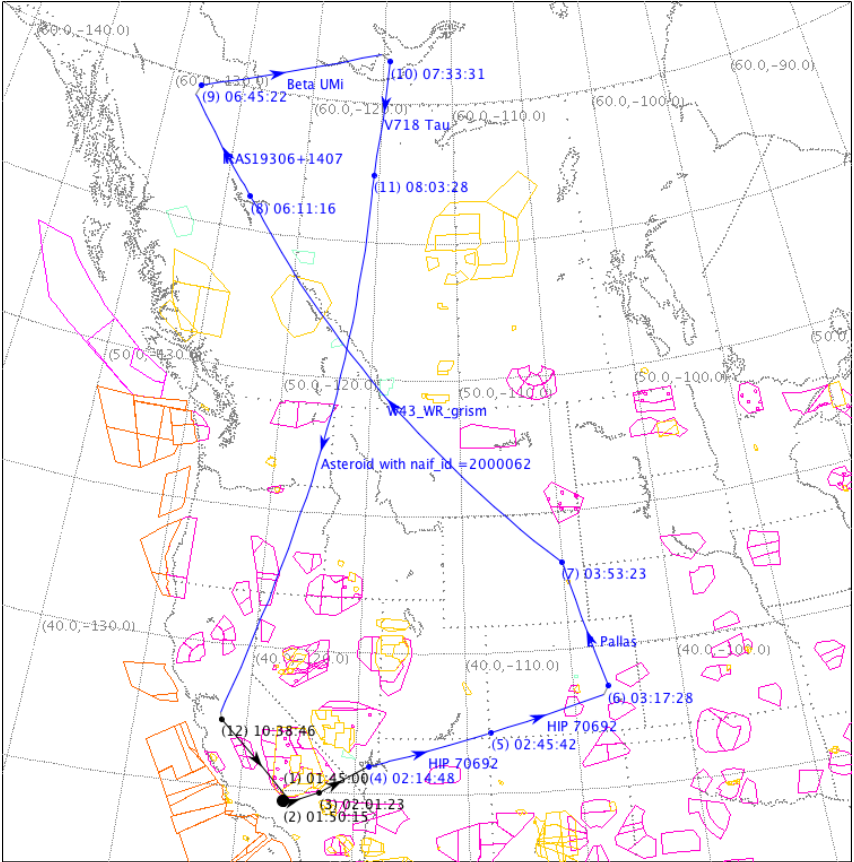


Flightplans

Sept. 15 2015



Sept. 17 2015

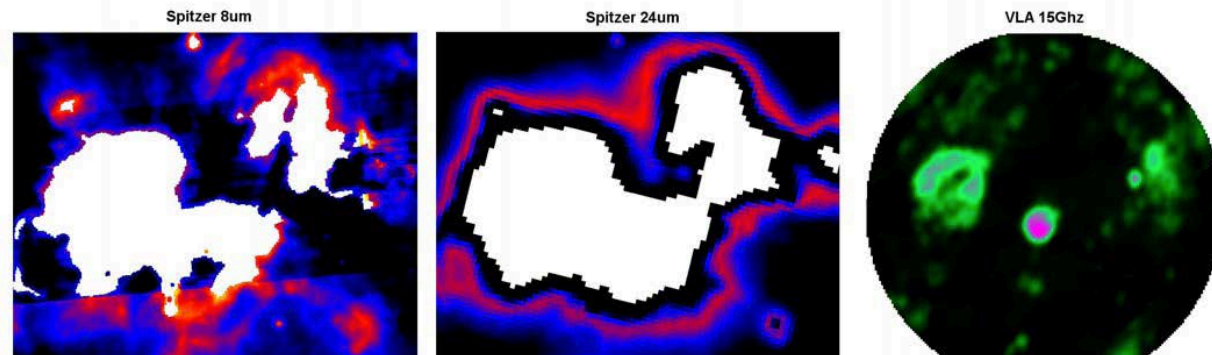
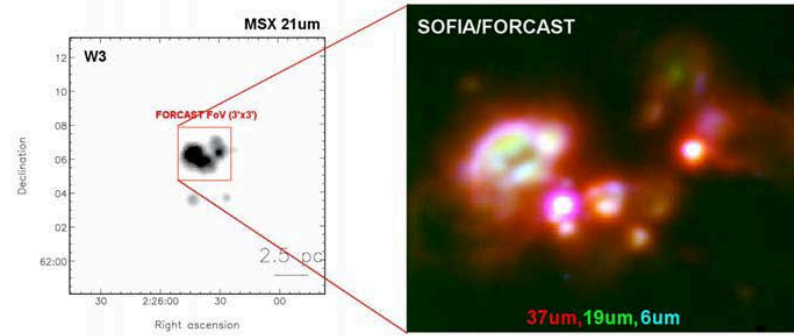


Flight Plan Name: File: 201509_FO_05_post-Science-01.fp
 Flight ID: 2015/09/18
 Est. Takeoff Time: 2015-Sep-18 01:45 UTC
 Est. Landing Time: 2015-Sep-18 11:14 UTC
 Flight Duration: 09:29
 Weather Forecast: 0000 Mon Jul 20 2015 - 1200 Wed Jul 22 2015 UTC
 Forecast Timestamp: 1645 Sun Jul 19 2015 UTC
 Saved: 2015-Aug-19 01:18 UTC User: kbowser

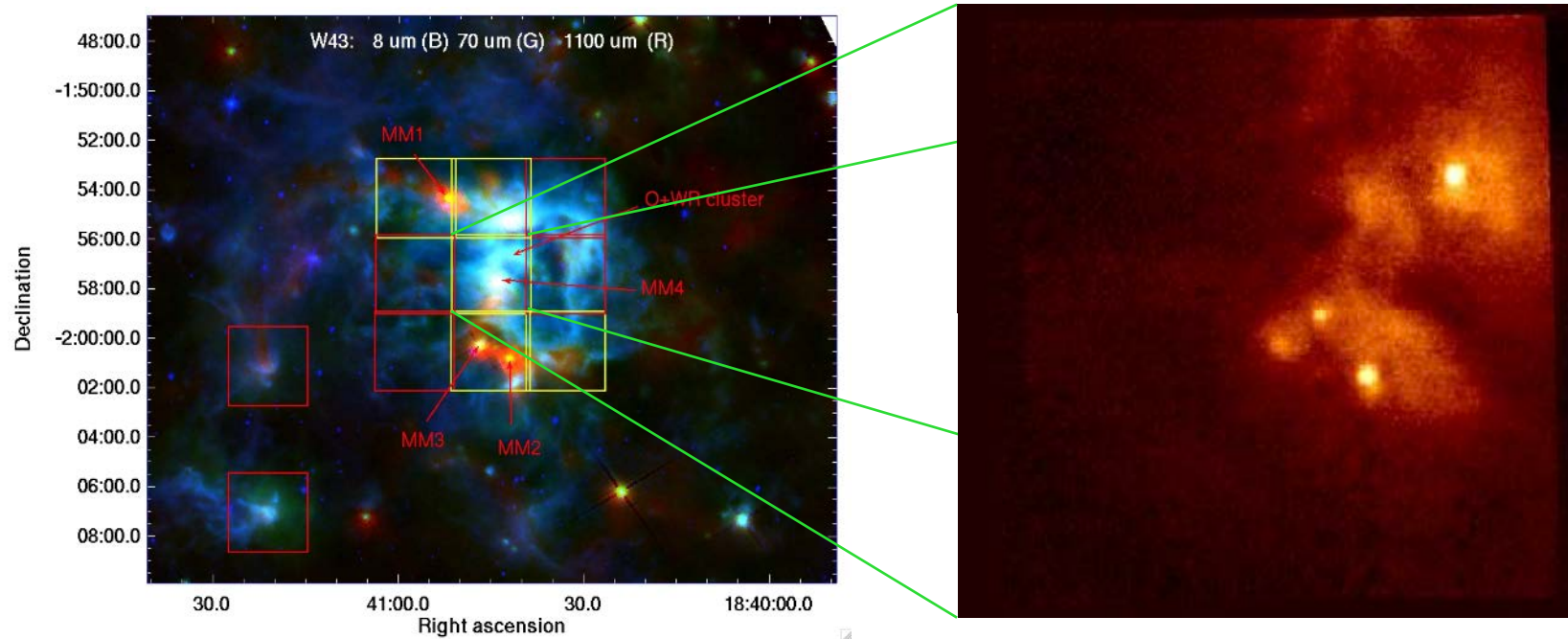
W31S, W49A, W51A, W58A – Giant HII Regions

Title: Revealing the Embedded Structures and Sources within Giant HII Regions: The Northern Hemisphere Sample

Investigator: Dr. James De Buizer (SOFIA - USRA)



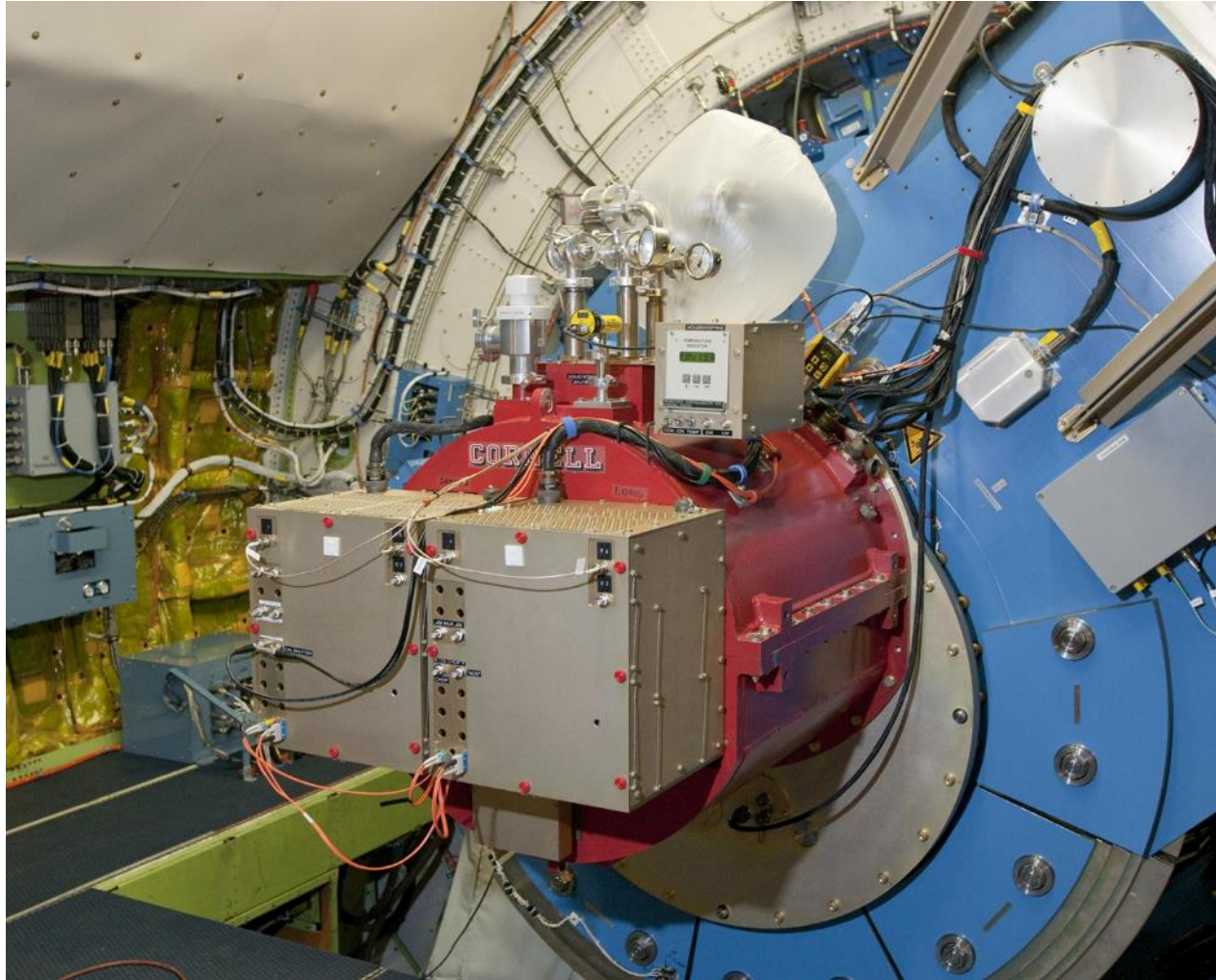
W43 WR – A “mini-starburst” in action

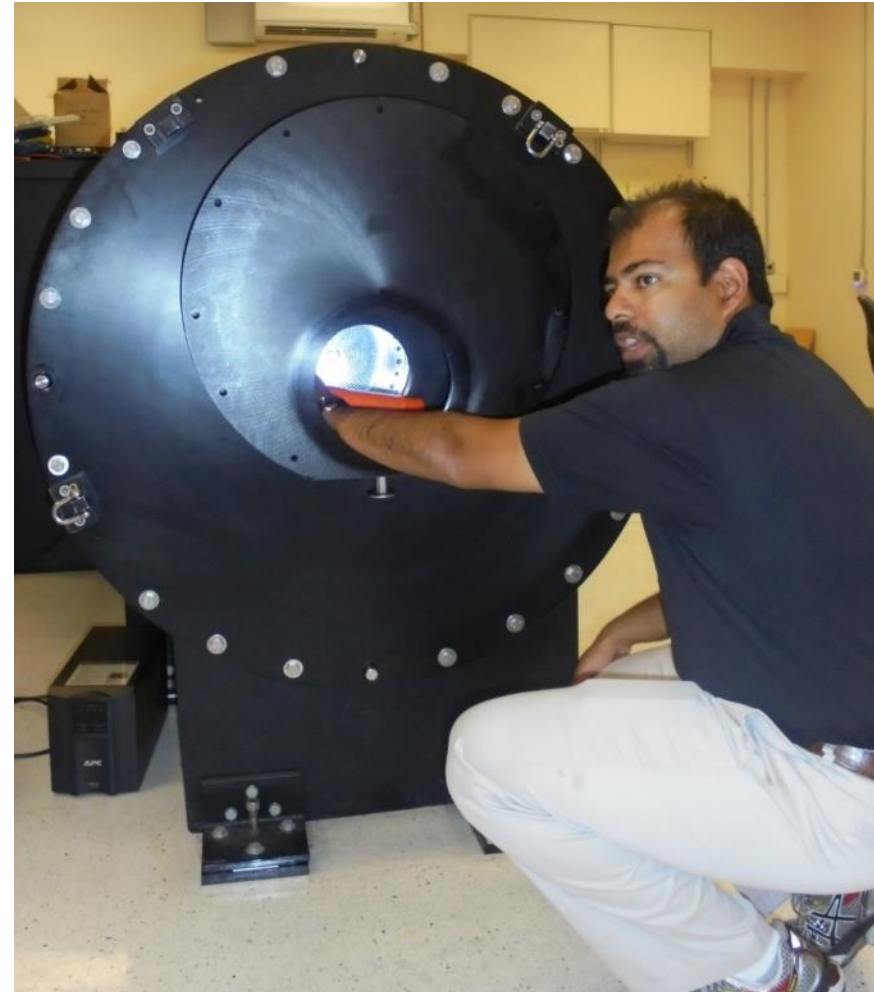
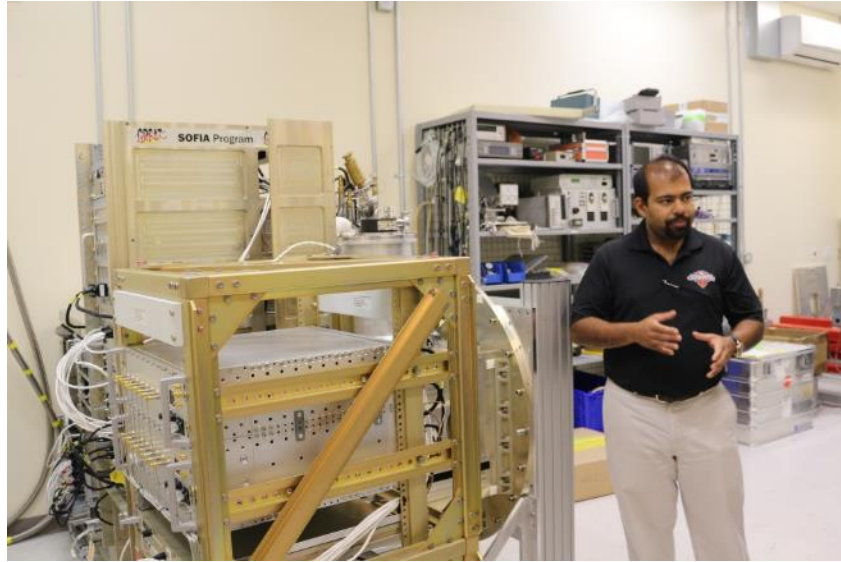


Title: FORCAST Imaging and Spectroscopy of the mini-starburst in W43

Investigator: Prof. John Bally (University of Colorado at Boulder)

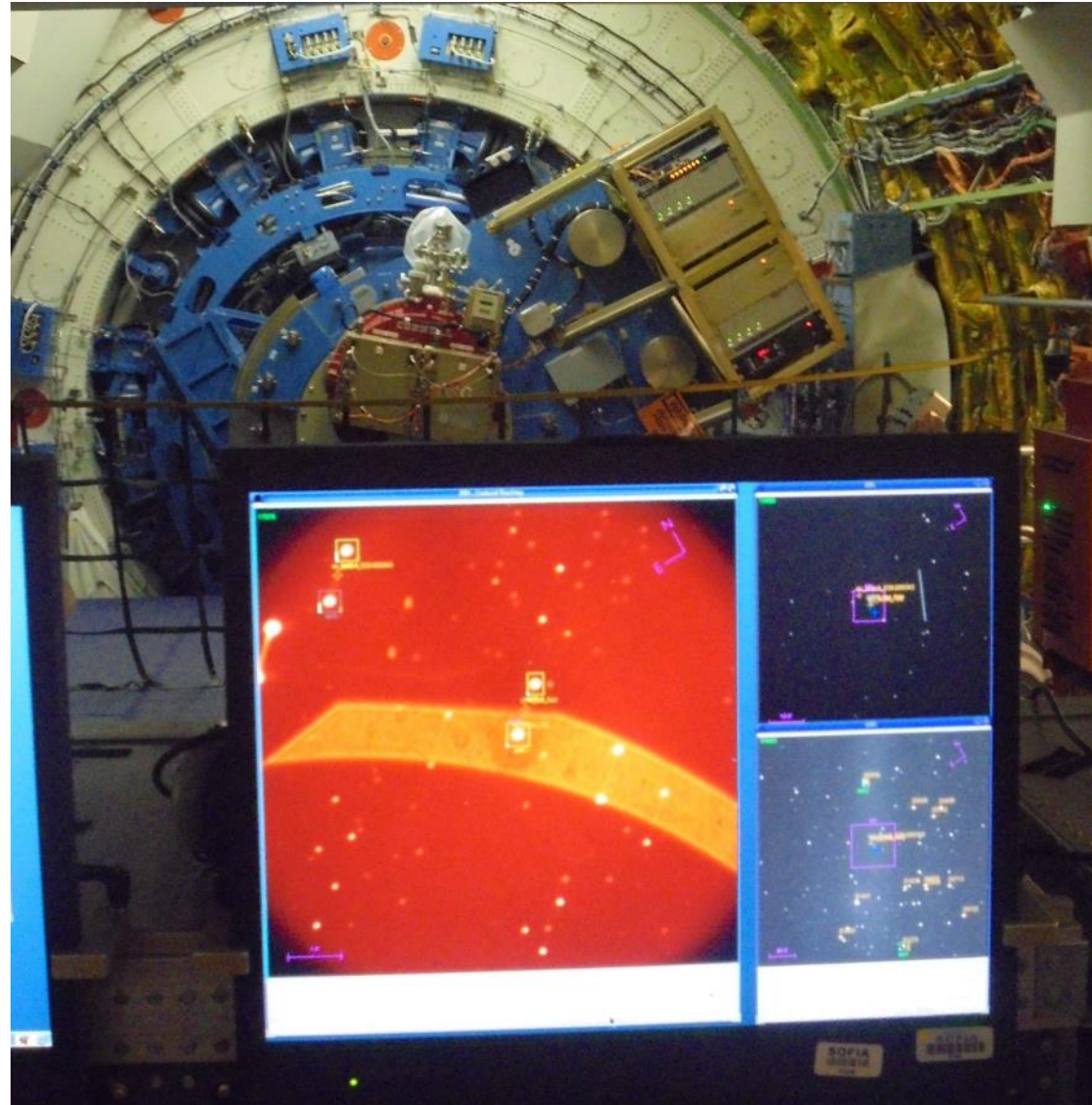
The **F**aint **O**bject **i**nfra**R**ed **C**AMERA for the **S**O**F**IA **T**elescope (**F**OR**C**AST)











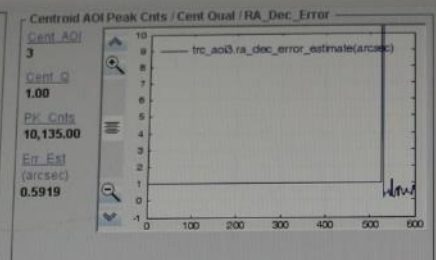
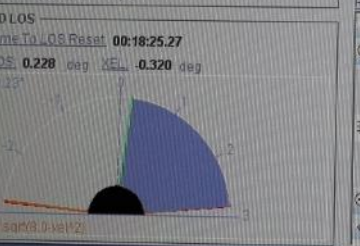


Session
ON LEG
CONFIG
OBSERVING
 Sep 16 2015 08:40:01 UTC
 2015-09-16_FO_F239
 TT HWPT: 00:10:00 TLOL: 01:56:10
 Curr Pos: 03_0064_17
 SIBL: 4h39m57.673s
 25d45m17.039s
 267.667

Switched BS: sibs
 Incl Config: for_ss_backup
 Aircraft & Environment
 Leg: 11 WY LOS: 84.40 microns
 Lat: 51.042 deg Stair Az T: -44.00 deg C
 Long: -119.366 deg Press Alt: 43,013.00 ft
 Hdd: 184.385 deg SD Air Press: 4.775 inHg
 SD Air Press: 161.701 mbar

TASCU
 TA CL: 36.259
 TRC Stat: STAB_INERTIAL_ONGOING
 FBC Stat: FBC_ON
 RIA Stat: RIA_BEARING_OPERATIONAL

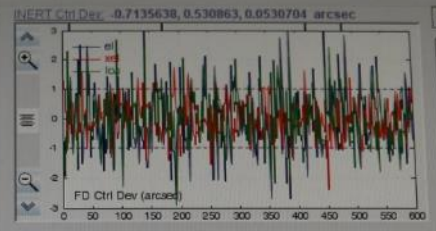
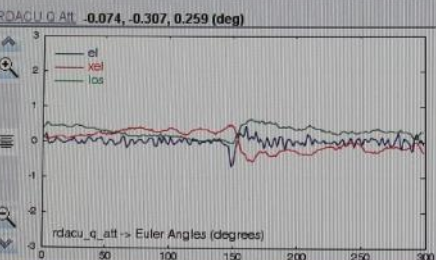
VIS
 ax1: 0.559 to 1: 1.121
 ax2: 1.018 to 2: -1.189
 ax3: 0.968 to 3: 0.487
 ax4: 0.874 to 4: 0.449
 ay1: -0.365 to 5: 0.607
 Bot Press: nan psia



Tracking
 TRC Mode: TRACKING LOTVV
 CentAOI: 3 Cam: FFI Beam: MINUS_BEAM LOTE
 ROF Calc: OFF ROF AOI: 0 ROF AOI2: 0 NLCK

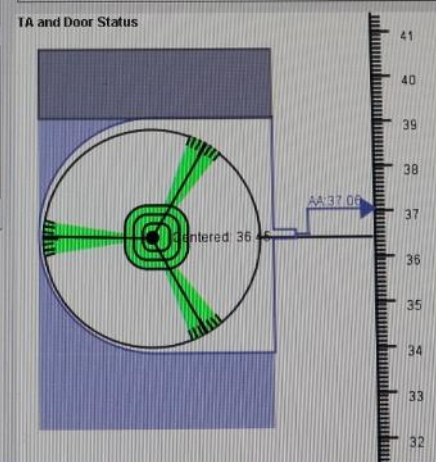
Nod
 Nod Pos: a Amp: 30.00 arcsec CS: erf
 Num Bms: 3 Amp2: 30.00 arcsec Profile: 3
 Nod Next: x Amp: 300.00 deg
 Trk Pos A: nodtracka
 Trk Pos B: nodtrackb
 Trk Pos X: nodtrackx

Dither
 Curr: base
 Next: base
 Num Pnts: 1
 Seq: base



Drift Estimates
 EL: 0.15004 arcsec/sec
 XEL: -0.18711 arcsec/sec
 LOS: 0.1660 arcsec/sec
 ATC Stat: ATC_EST_DRIFT_STABLE

Imagers
 Cam Bin Int(ma) Filter
 WFI 1x1 2000 CLEAR
 FFI 1x1 3000 CLEAR
 FPI 1x1 3000 FILTER_ND2
 FPI Focus: -32.194 mm

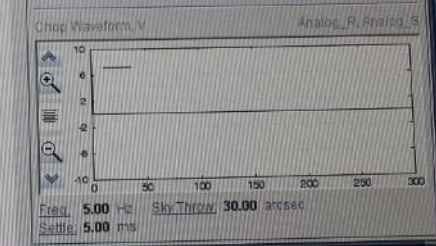
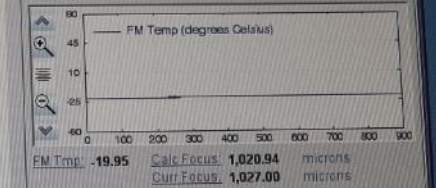


Gate Valve: TA Switches: Alive

ANU Panel	PDU/PW	TASCU	TASCU	SMA	MCP/TRC
				CAL	
INT	SALA	INTL	CHOP	TRM	
GrpP	CPLD	FBCF	FBC		

SMA
 SCS State: SCS_ACTIVE_ONGOING Heatbeat
 FCM State: FCM_ACTIVE
 TCM State: TCM_CHOPPING
 Sync: EXTERNAL
 Profile: TWO_POINT
 Sym: 2_point_symmetric
 FBC: FBC_ON

TCM
 Amp1: 112.248 arcsec R: -1,301... microns
 Amp2: 0.00 arcsec S: -277.367 microns
 SMA Ang: 78.443 deg RotR: -137.208 arcsec
 Sky Ang: 120.00 deg RotS: 594.492 arcsec
 CS: erf

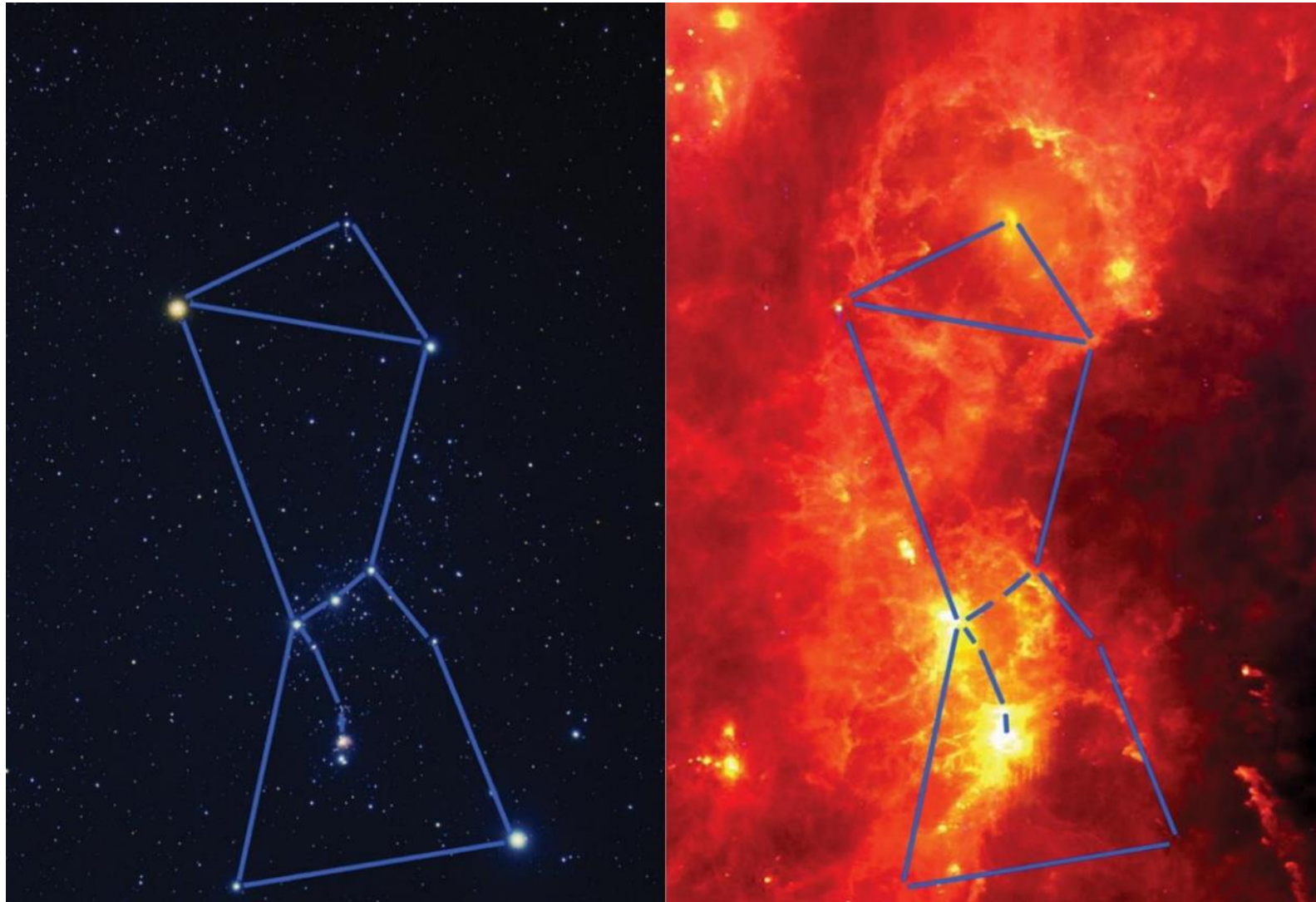




Somewhere Over Canada



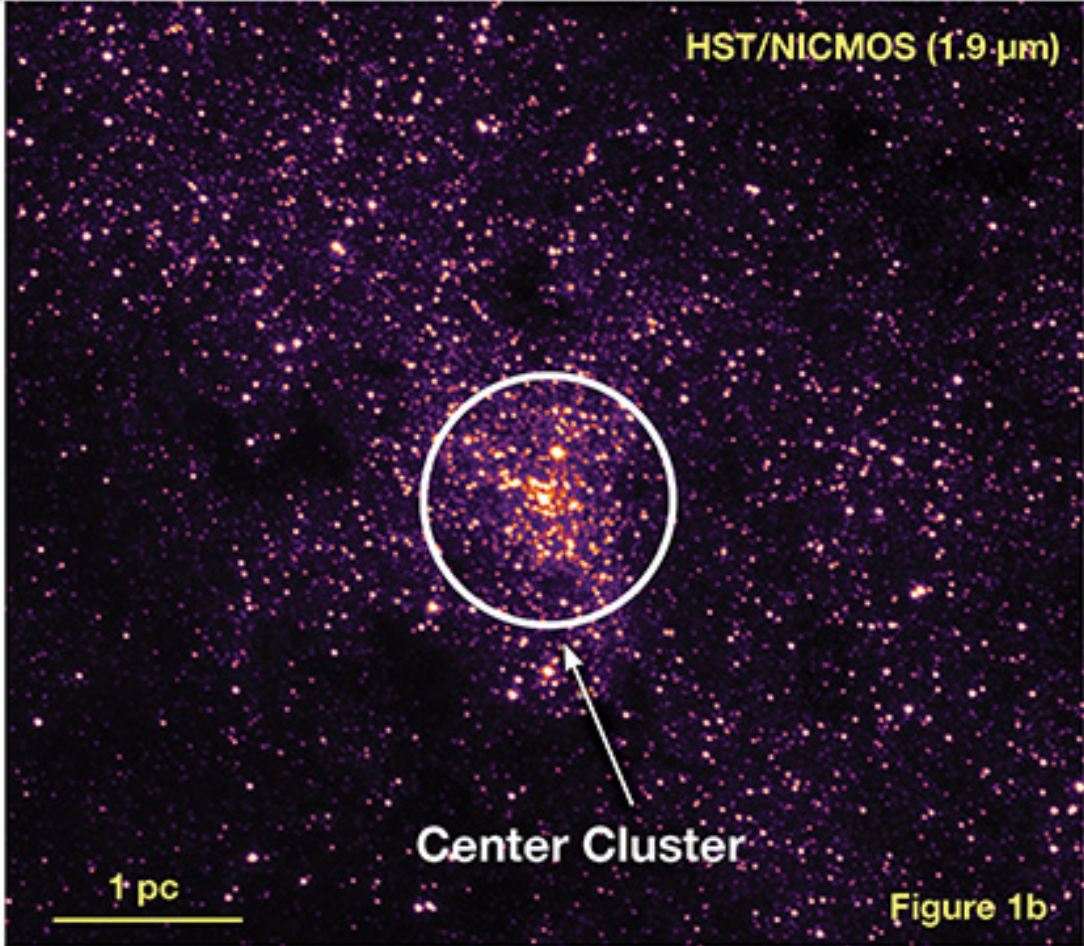
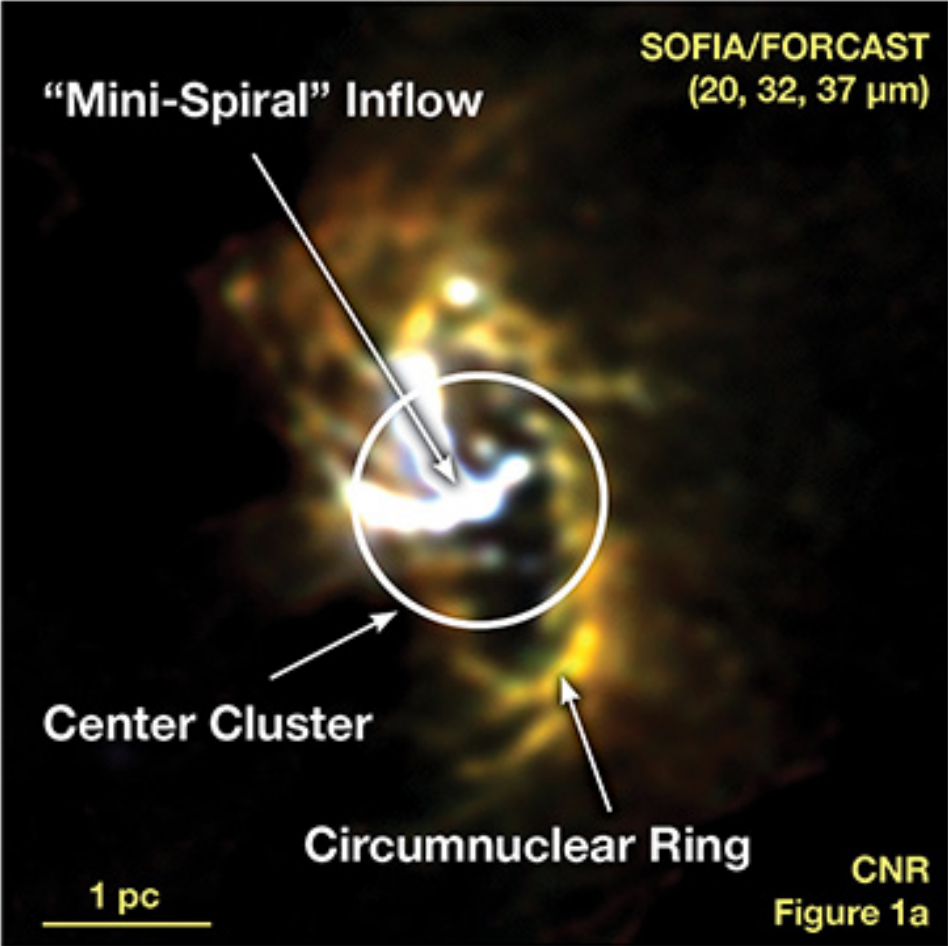
Orion Constellation



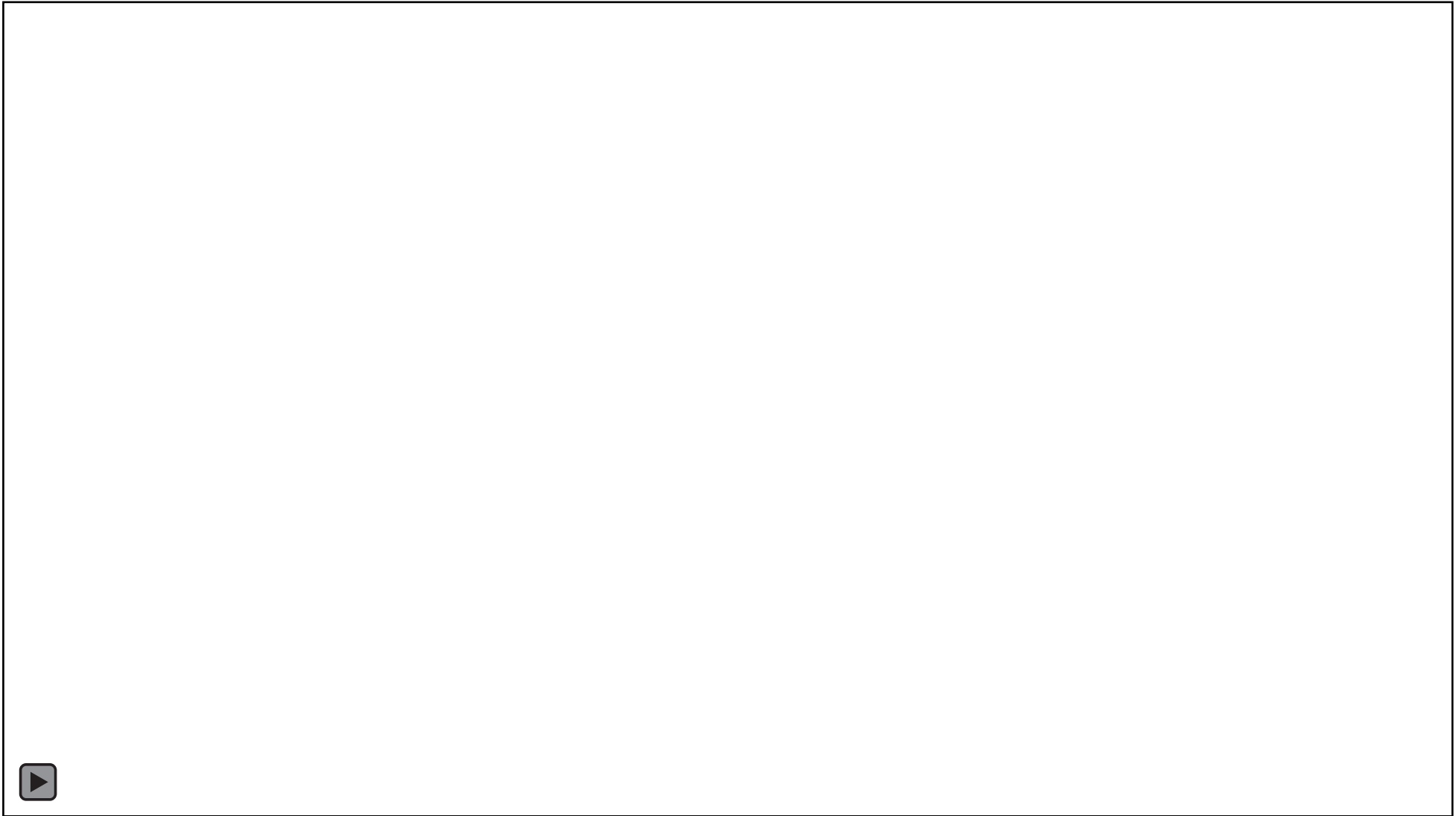
Visible Light

Infrared Light

Milky Way Galaxy Circumnuclear Ring







www.nasa.gov/content/1.108100main/sofia_sofia_150930main1

sofia flying in stratosphere

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NASA's Airborne

SOFIA



Sept. 30, 2015

NASA's SOFIA Observatory Flies Star Trek Icon and Educators on Science Mission

On Sept. 15, five educators participating in NASA's Airborne Astronomy Ambassadors program, boarded the Stratospheric Observatory for Infrared Astronomy (SOFIA), and boldly went where no ambassadors have gone before – into the stratosphere with technical factors, actress, cultural icon, and science advocate.


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New Photos, Video of Nichelle Nichols' NASA/SOFIA Mission

by Star Trek.com Staff October 02, 2015

NASA, on September 16, updated its site with a story about Nichelle Nichols flying along with educators on NASA's September 15 SOFIA Observatory. StarTrek.com covered the event in detail at the time, but the NASA story offers additional details, as well as new photos and a video, and so we thought we'd share it with StarTrek.com readers, behind and enjoy, and clearly Nichols is doing well following her recent tumor strike.

Nichelle Nichols "Lt. Uhura" flies aboard SOFIA

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Flying with Airborne Astronomy Ambassadors - Sept. 15, 2015

<https://www.youtube.com/watch?v=oEuUxp5WpIE&list=PL7b4vf55aQl1OFJVkmZpySvupaMVZQcl0>

Thank You!



New Mexico Museum of
SPACE HISTORY

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Michael.Shinabery@state.nm.us