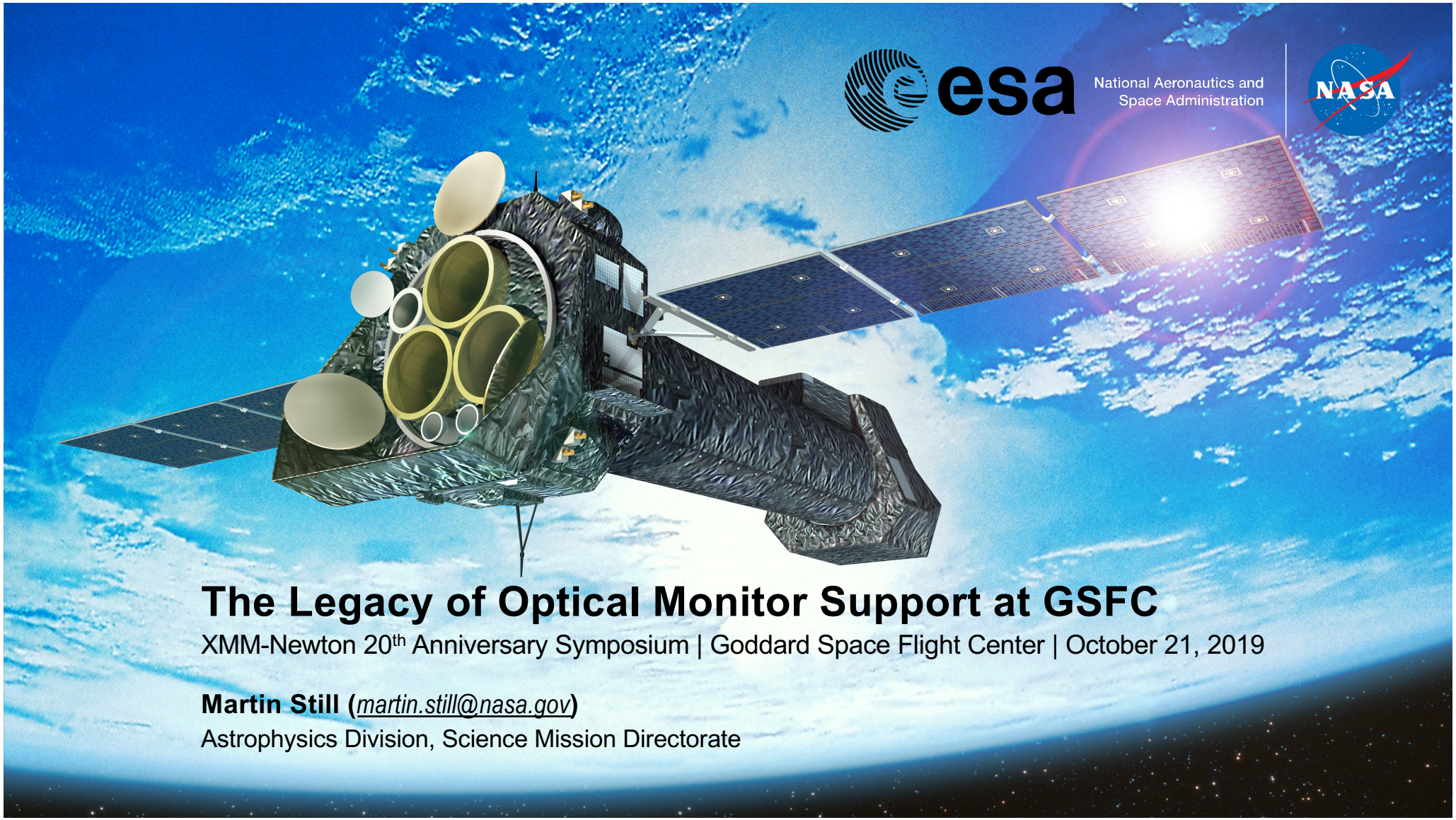
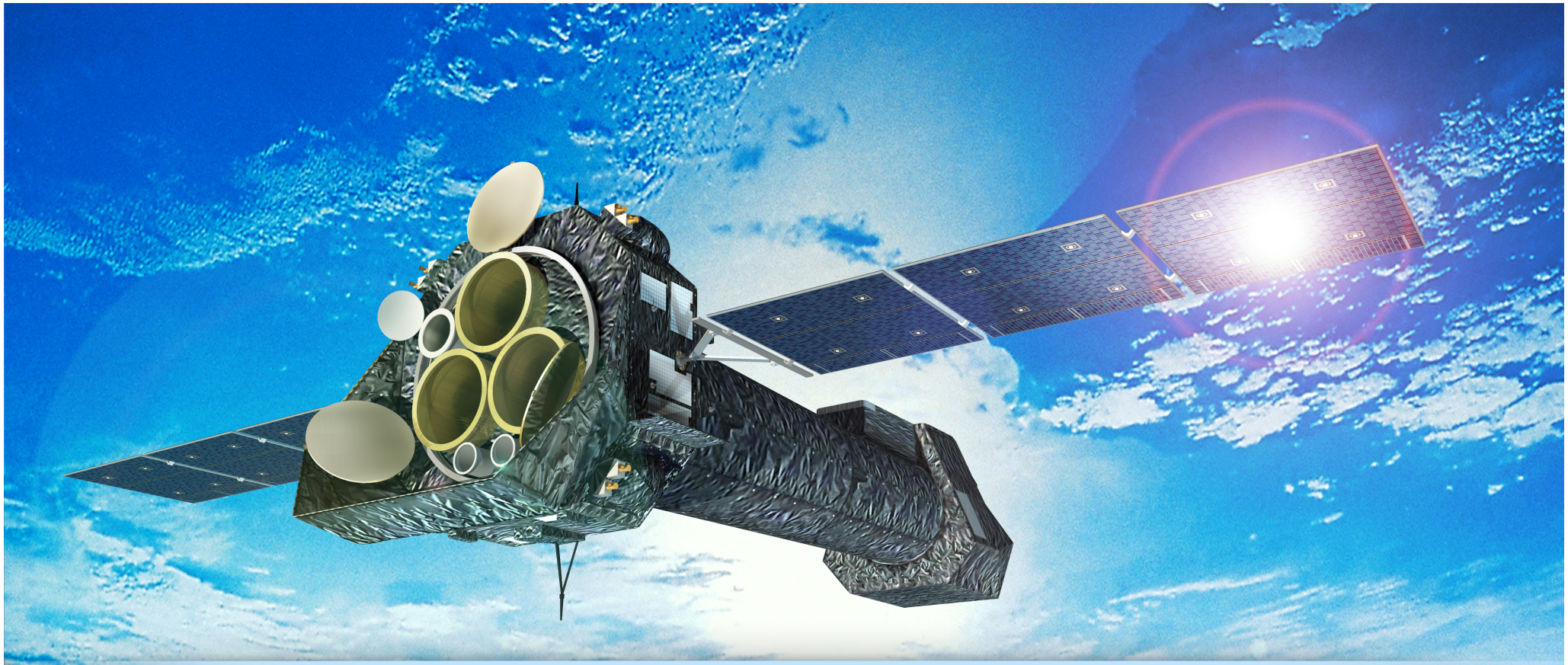


The Legacy of Optical Monitor Support at GSFC

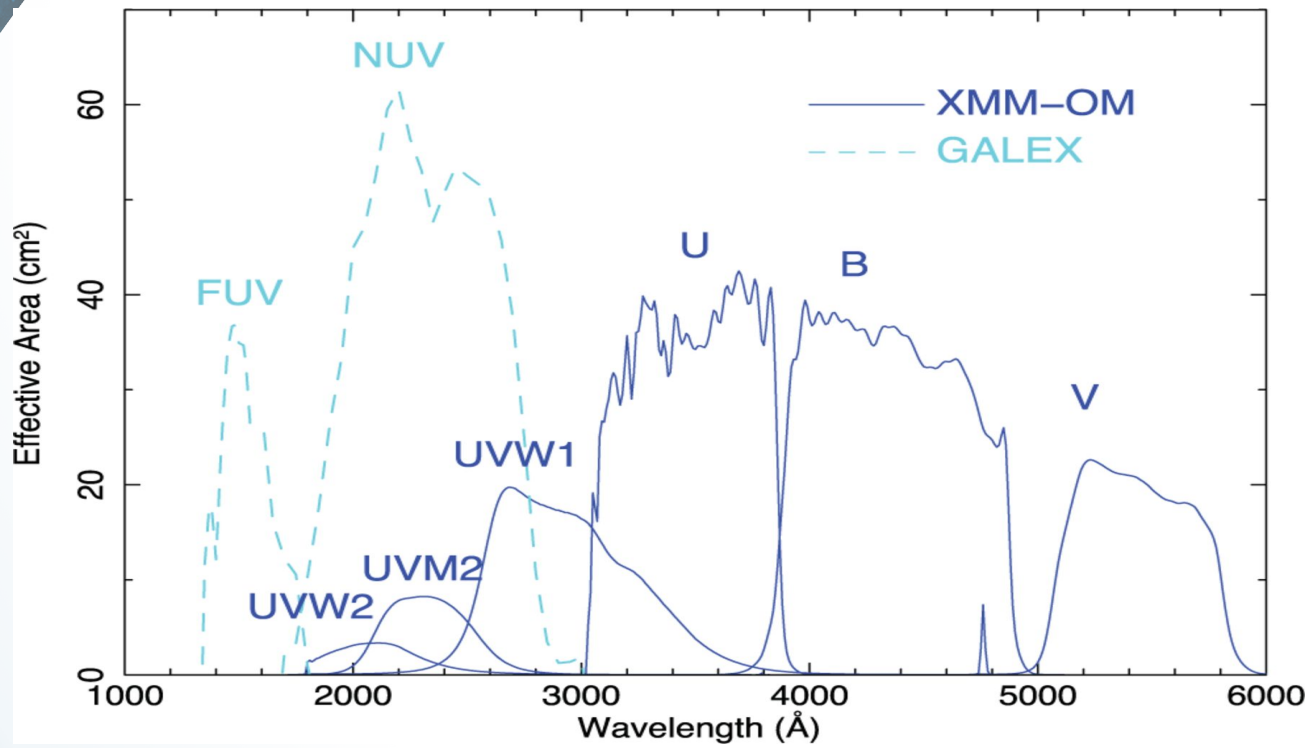
XMM-Newton 20th Anniversary Symposium | Goddard Space Flight Center | October 21, 2019

Martin Still (*martin.still@nasa.gov*)
Astrophysics Division, Science Mission Directorate



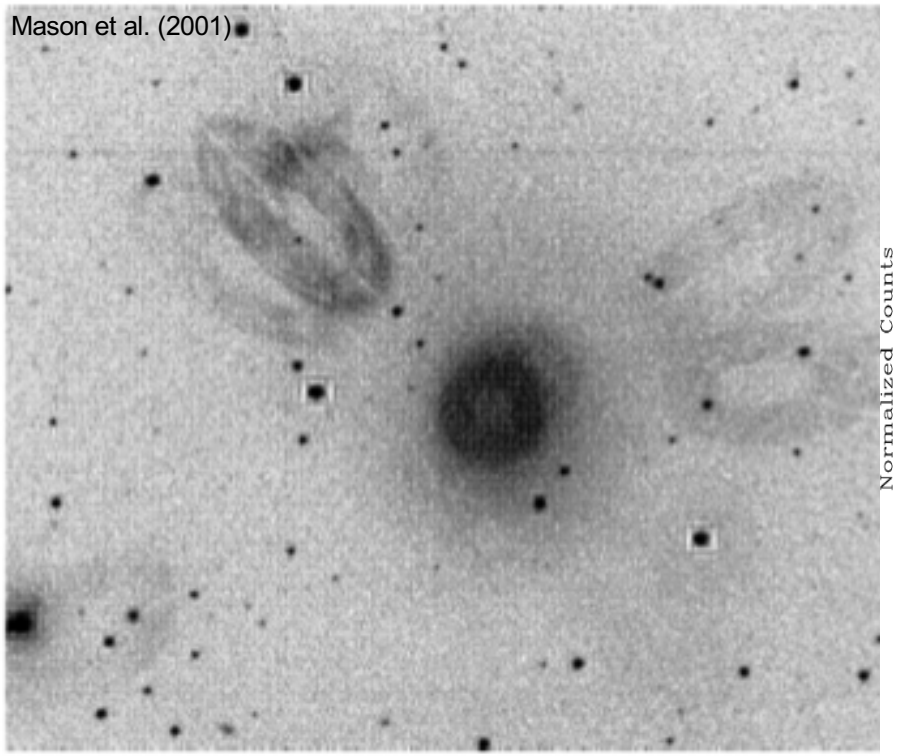
XMM-OM | A Background

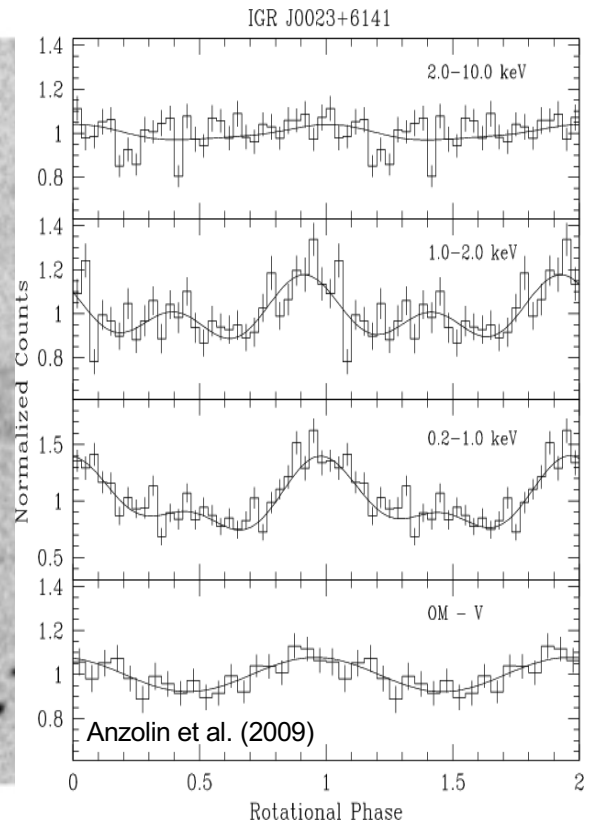
XMM-OM Broadband Filter Set

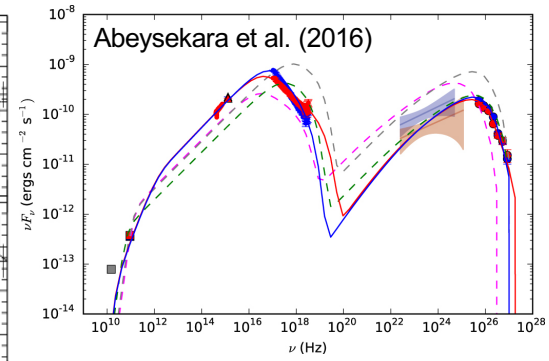


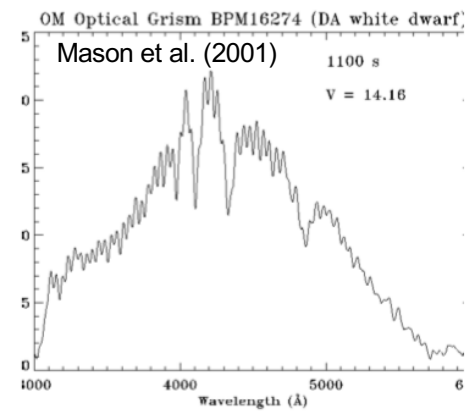
	XMM-OM						*GALEX*	
	UVW2	*UVM2*	*UVW1*	*U*	*B*	*V*	FUV	NUV
Effective wavelength (Å)	2120	2310	2910	3440	4500	5430	1539	2316
Wavelength range (Å)	1800–2550	1990–2700	2430–3610	3030–3890	3810–4900	5020–5870	1344–1786	1771–2831
Zero-point (AB)	16.57	17.41	18.57	19.19	19.08	17.92	18.82	20.08
Peak effective area (cm^2)	3	8	20	42	39	23	37	62
FWHM resolution (arcsec)	1.98	1.80	2.00	1.55	1.39	1.35	4.2	5.3

XMM-OM: Imaging, Timing, SEDs, and Grism Spectroscopy

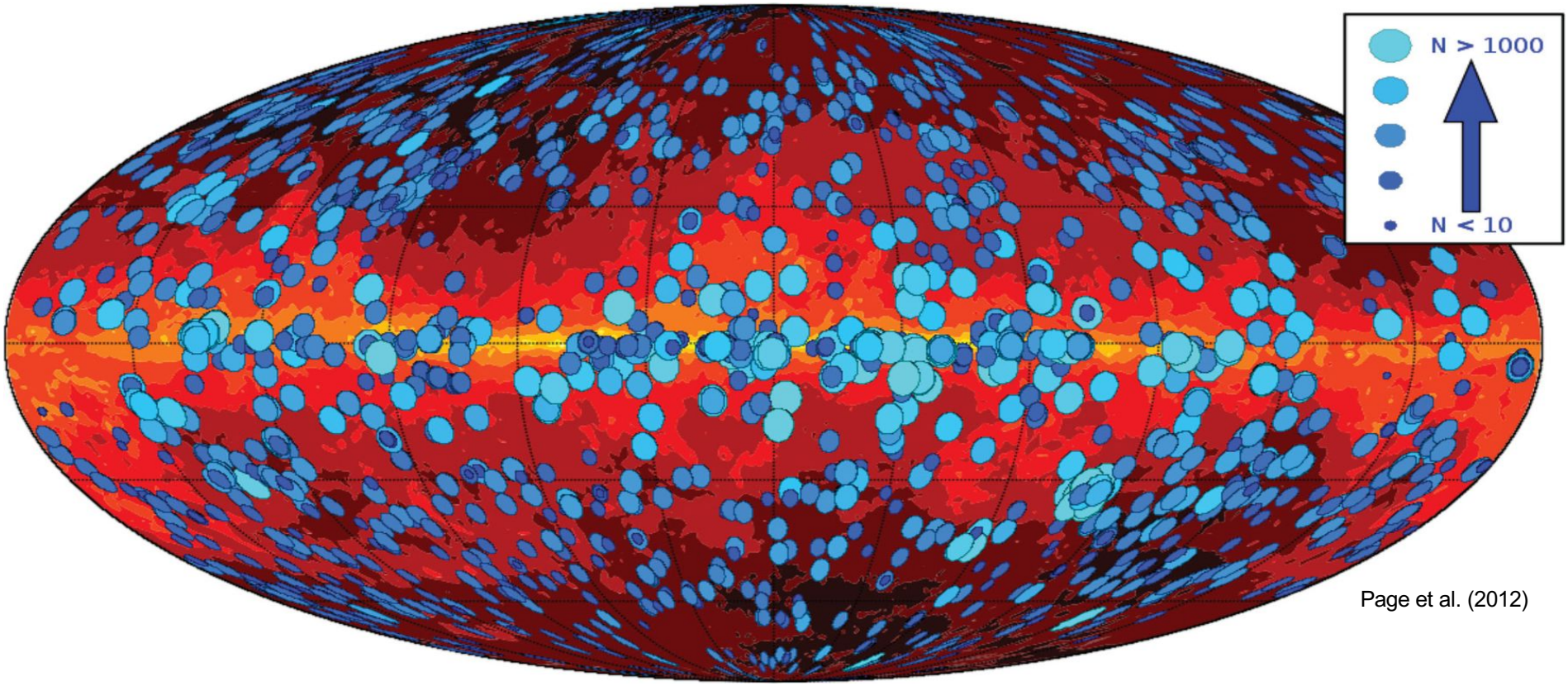








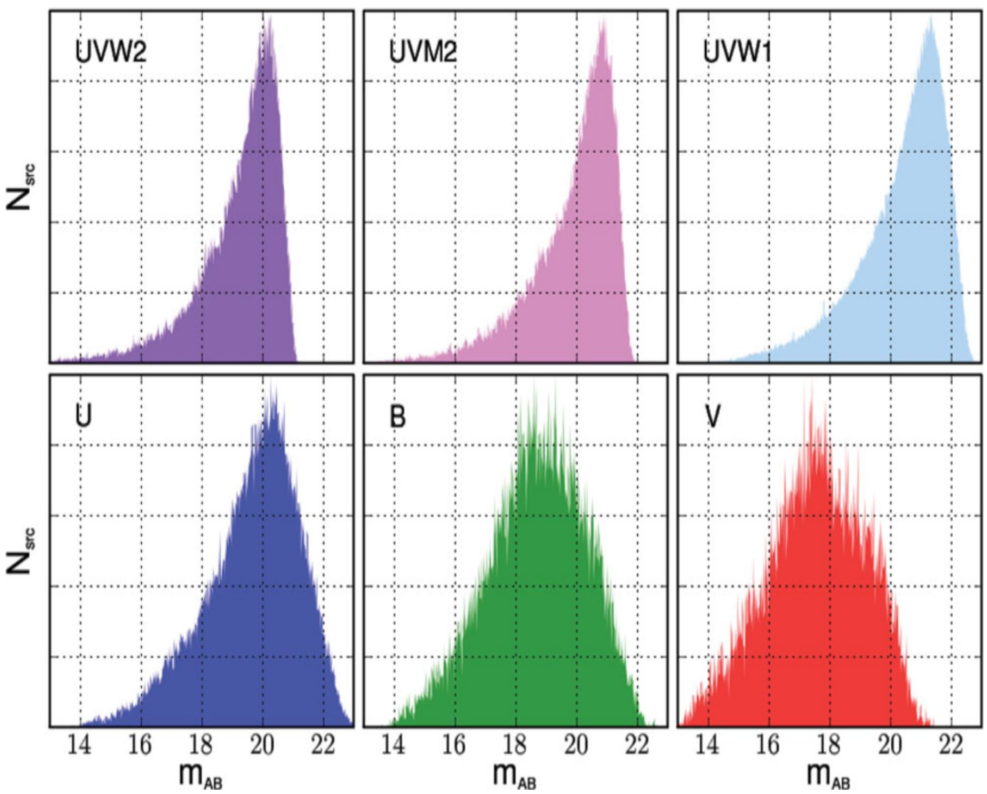
XMM-Newton Serendipitous Ultraviolet Source Survey (SUSS)

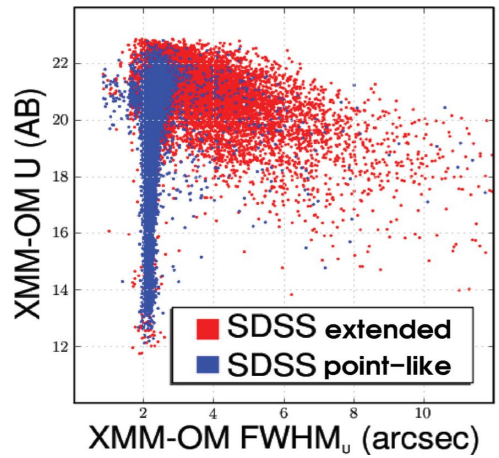


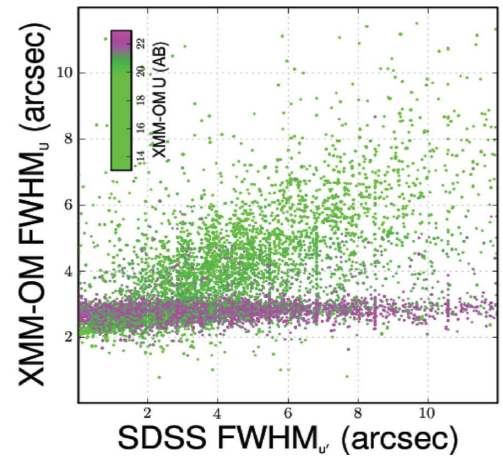
Page et al. (2012)

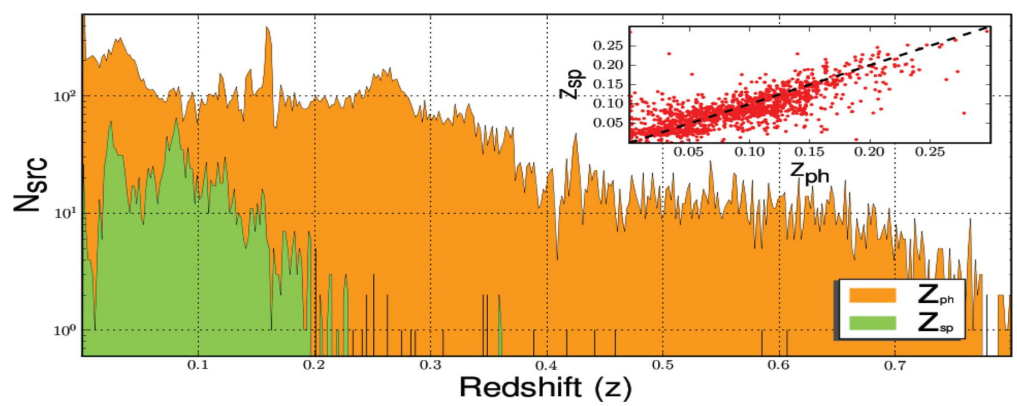
XMM-Newton Serendipitous Ultraviolet Source Survey (SUSS)

Page et al. (2012)



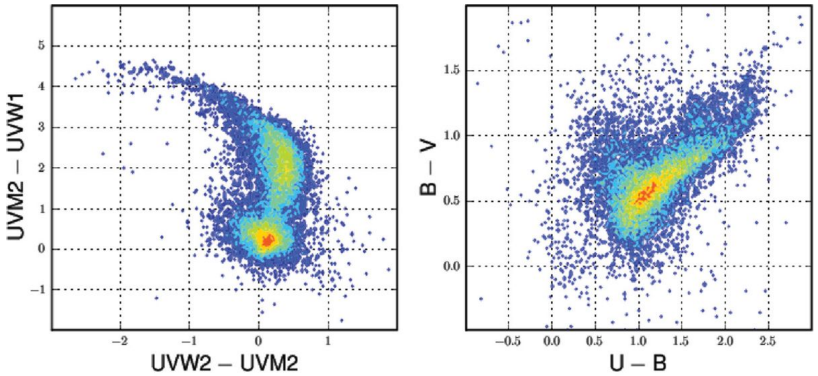


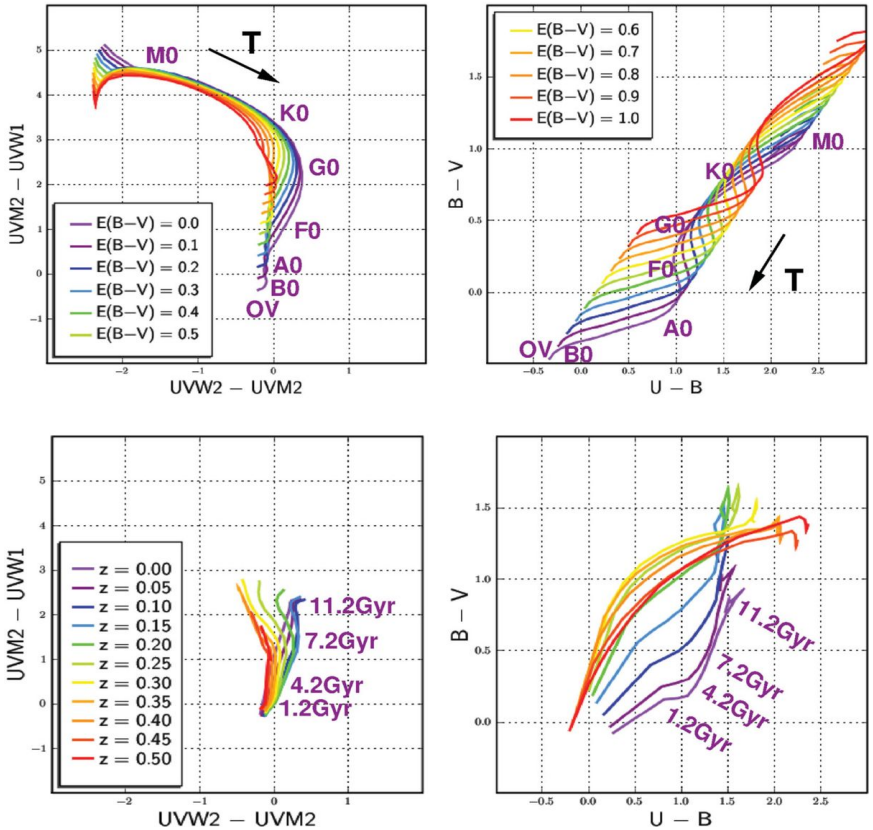


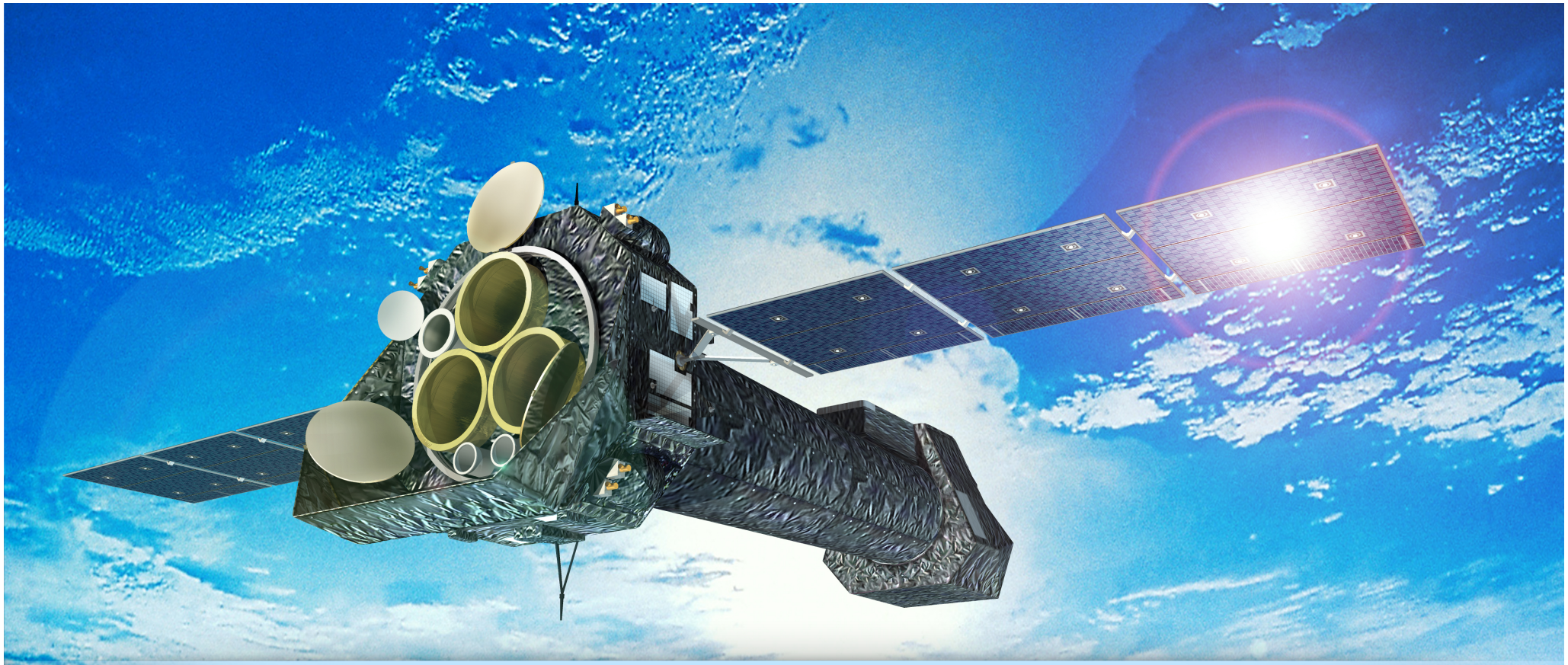


XMM-OM SUSS Color-Color Modeling

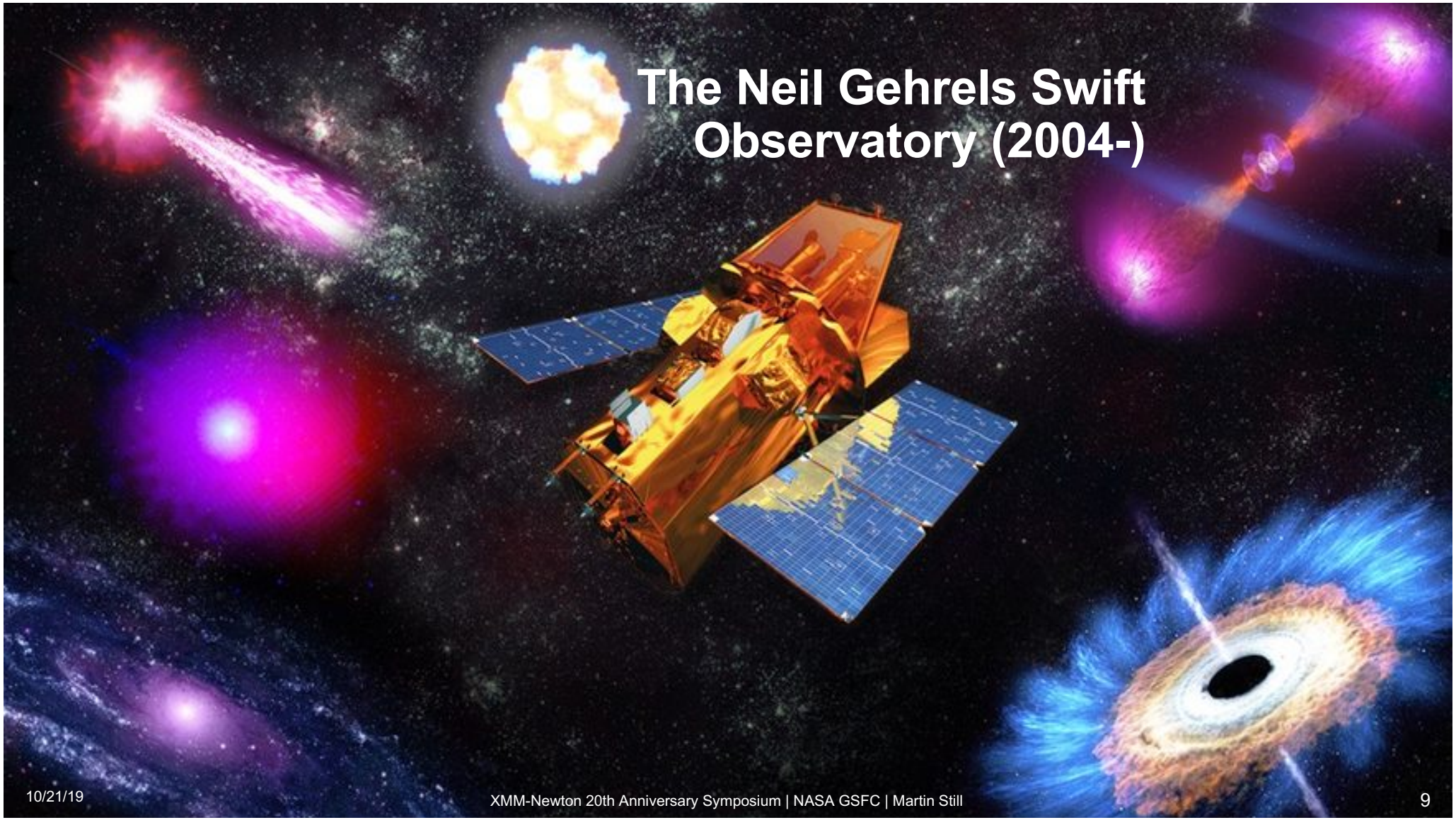
Page et al. (2012)





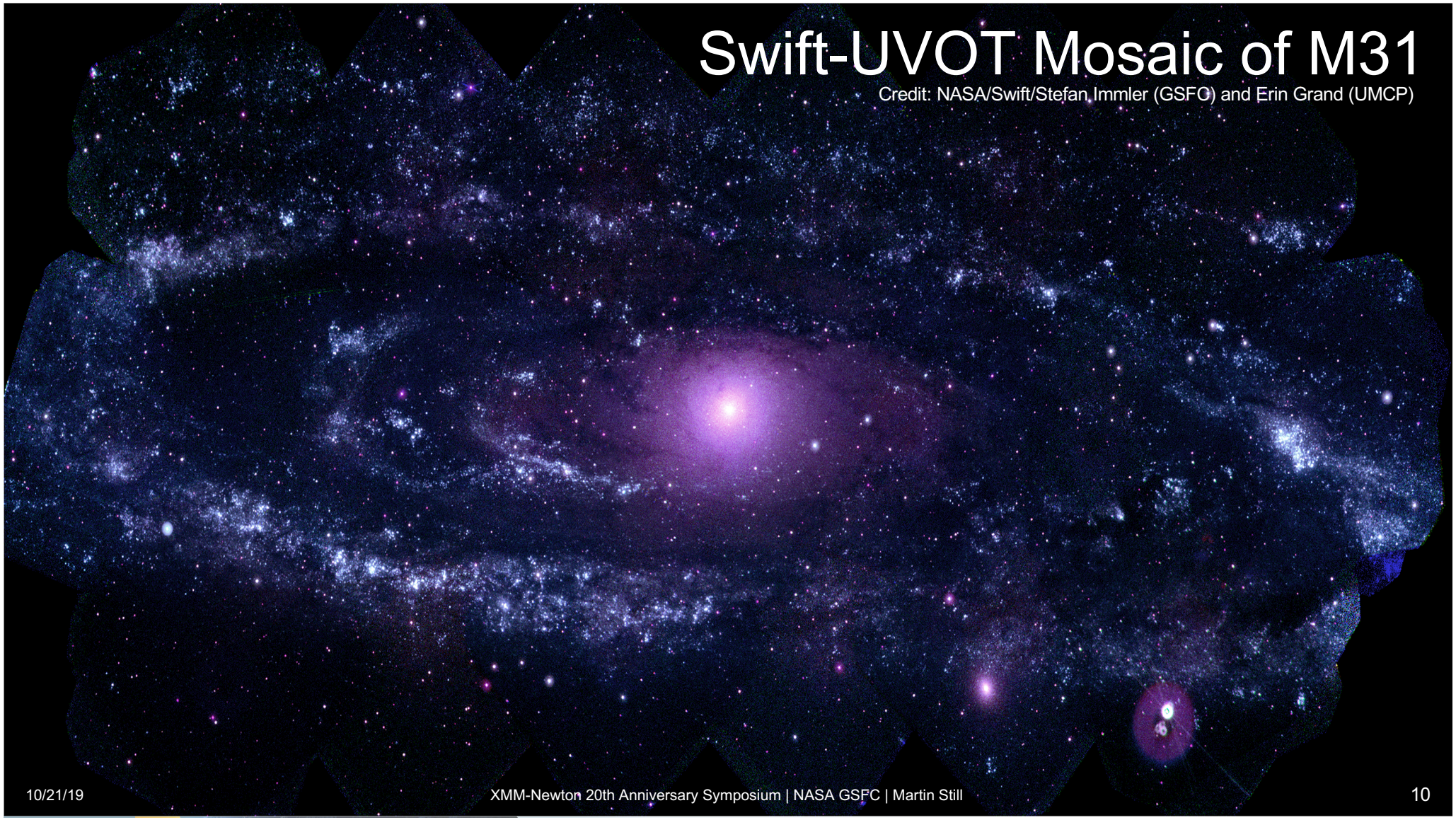


XMM-OM | The GSFC Legacy


The Neil Gehrels Swift
Observatory (2004-)

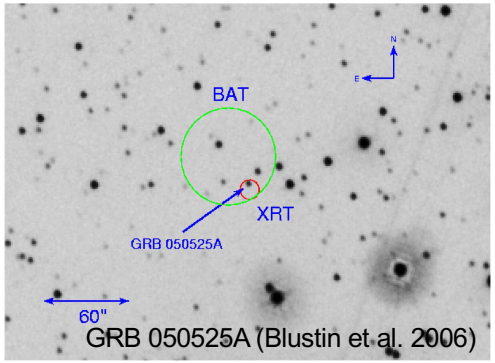
Swift-UVOT Mosaic of M31

Credit: NASA/Swift/Stefan Immler (GSFC) and Erin Grand (UMCP)

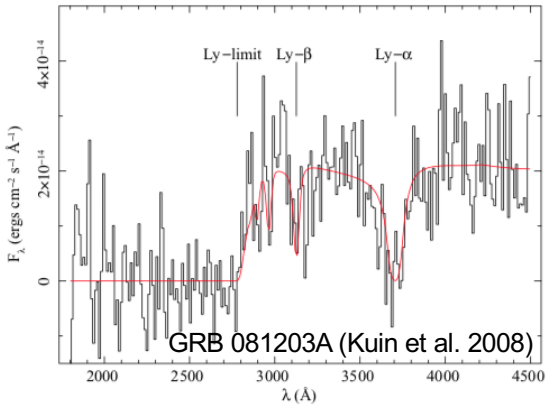


Swift-UVOT Tools, Archive, and Guest Observer Program

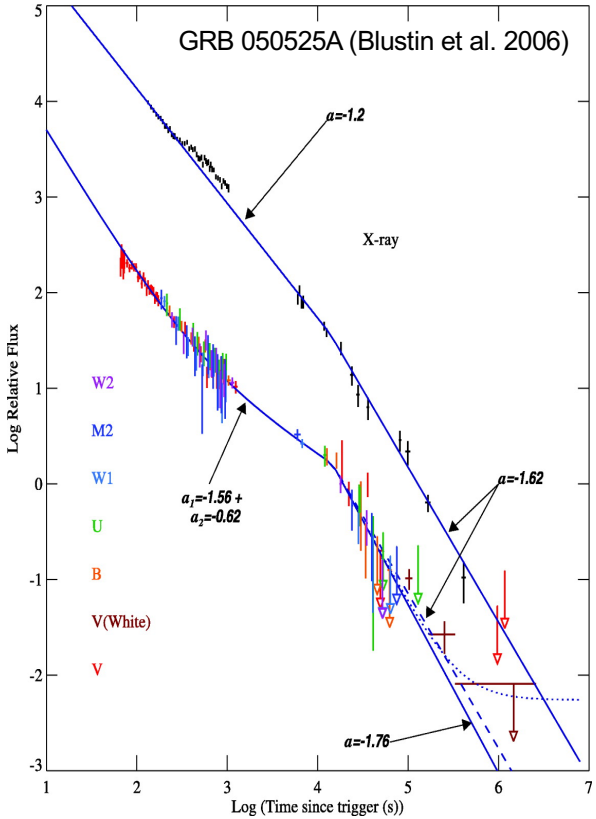
https://swift.gsfc.nasa.gov

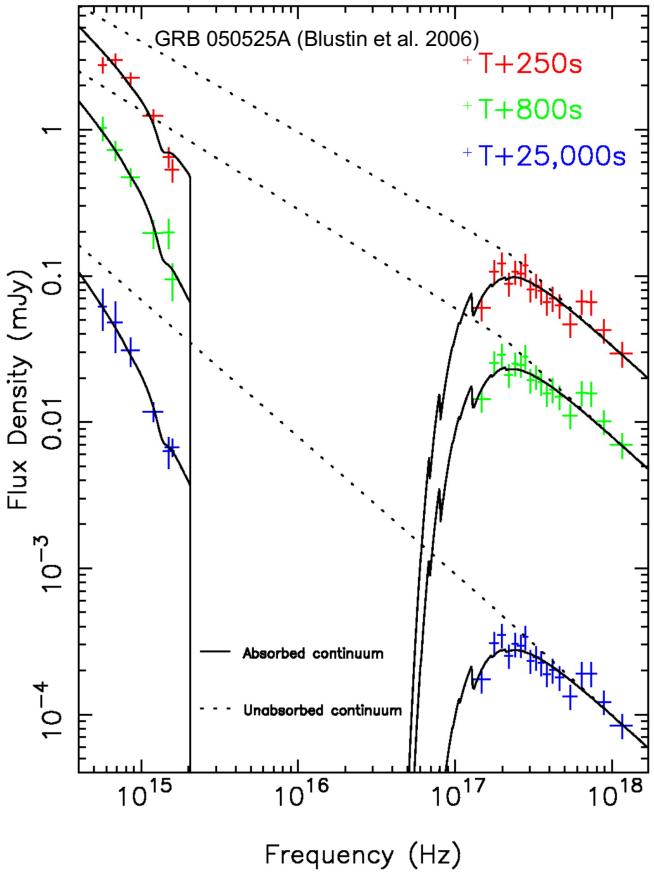


GRB 050525A (Blustin et al. 2006)

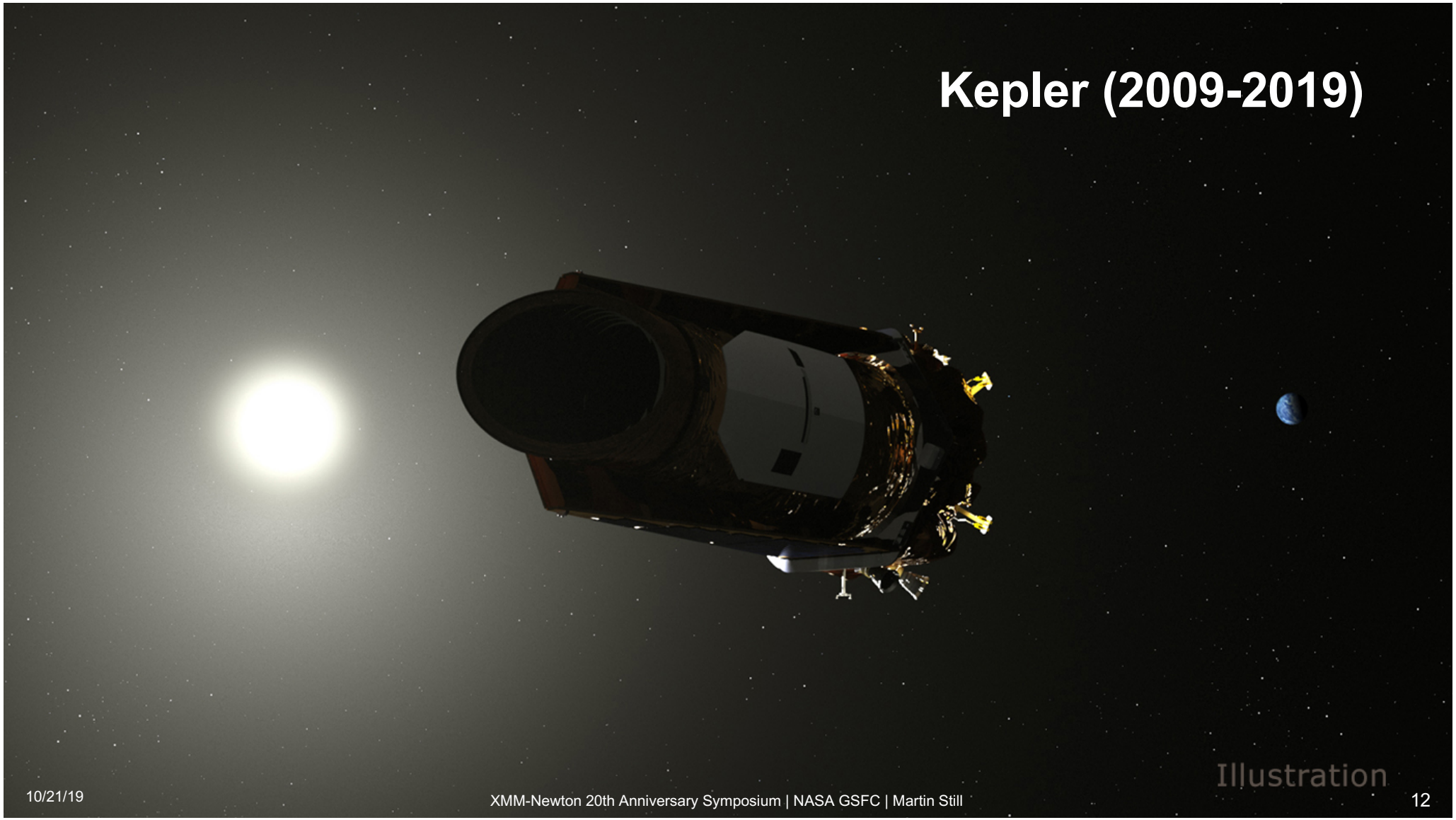


GRB 081203A (Kuin et al. 2008)



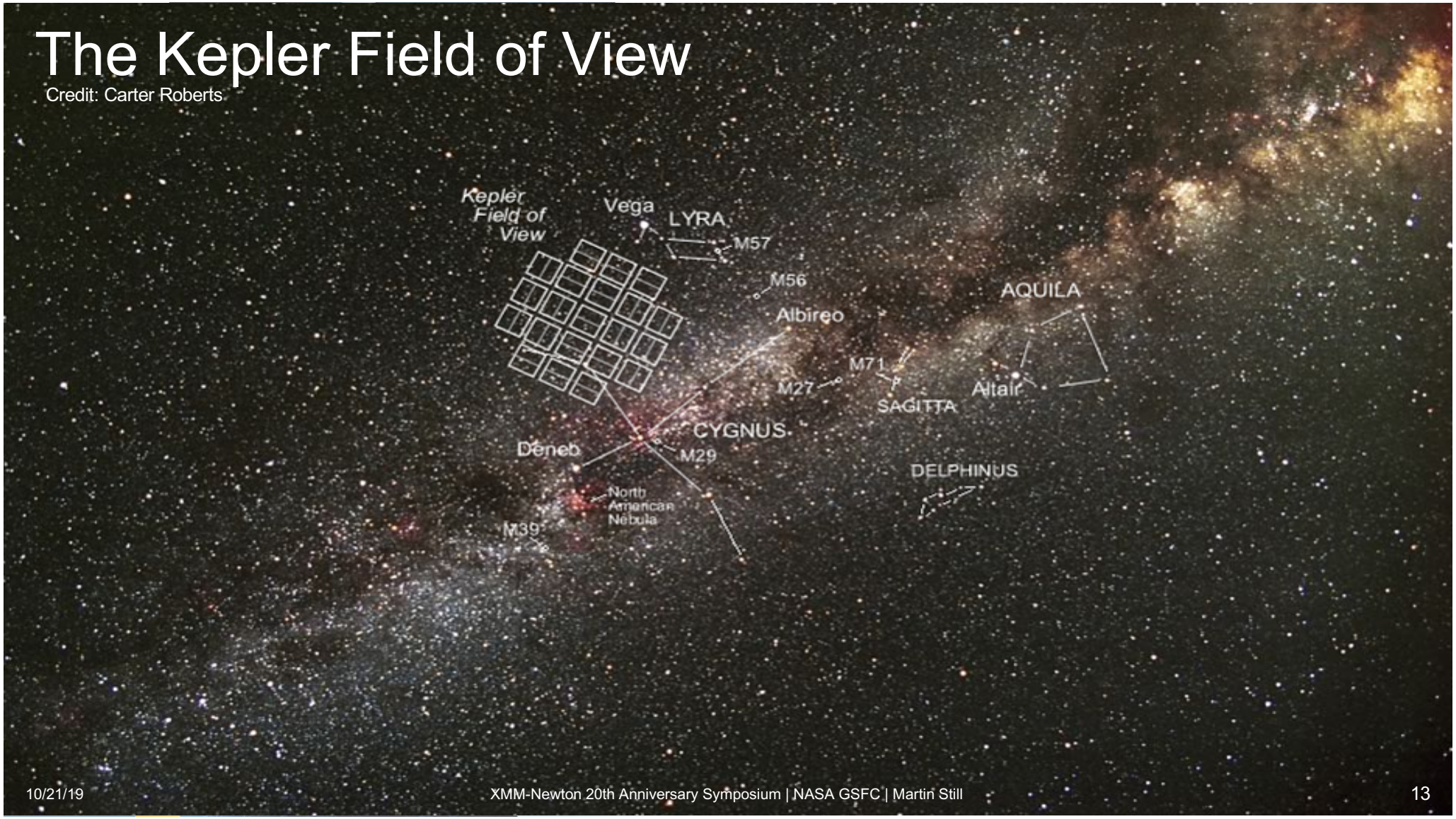


Kepler (2009-2019)



The Kepler Field of View

Credit: Carter Roberts

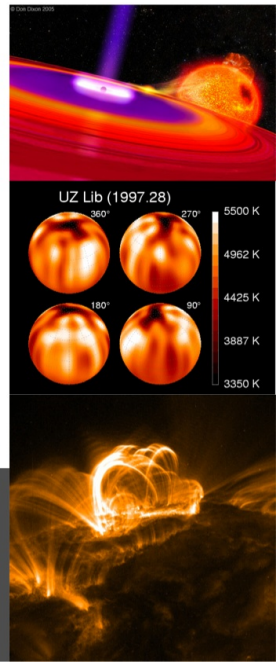


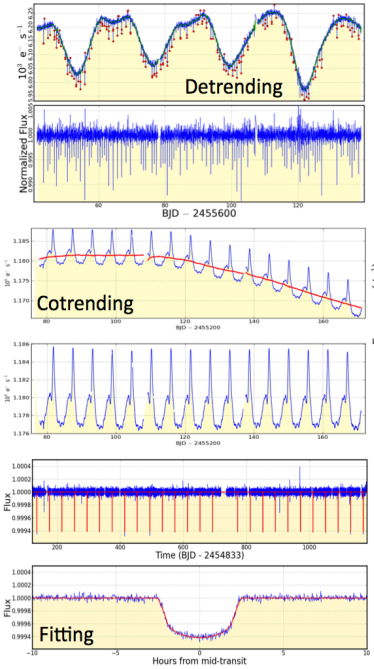
The Kepler Guest Observer Program

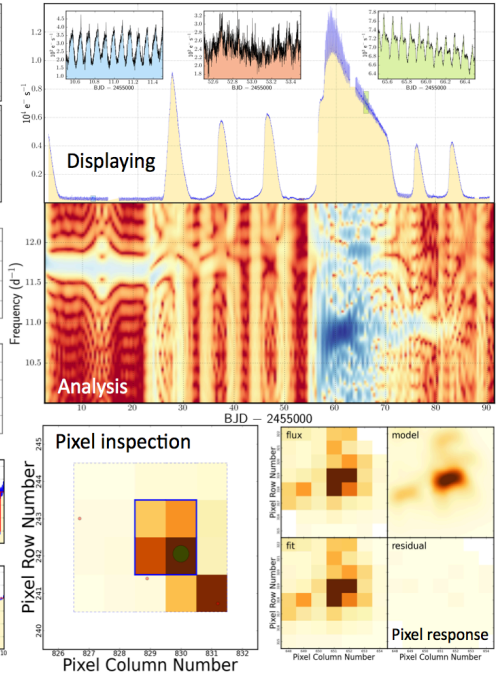
https://keplerscience.arc.nasa.gov

AREAS OF EXPLOITATION:

- » stellar sizes and masses (binary eclipses)
- » stellar age and rotation rate (open clusters)
- » asteroseismology (pulsations)
- » star spots (periodic dips)
- » flare stars (random eruptions)
- » stellar cycles (seasonal variations)
- » accreting stars (flickering)
- » active galactic nuclei (day-scale variations)
- » high/low-energy correlations (multi-mission)







The Kepler Guest Observer Program

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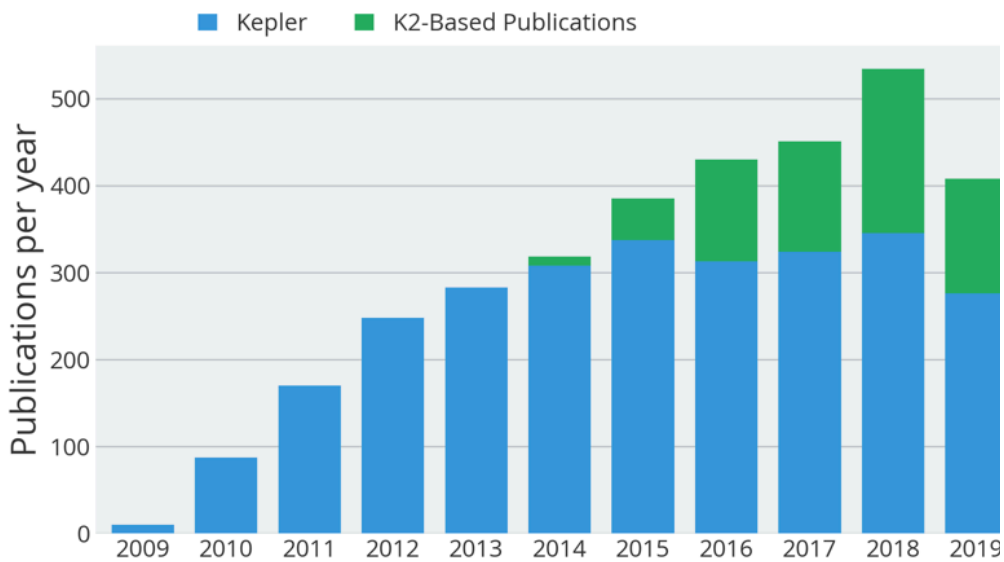

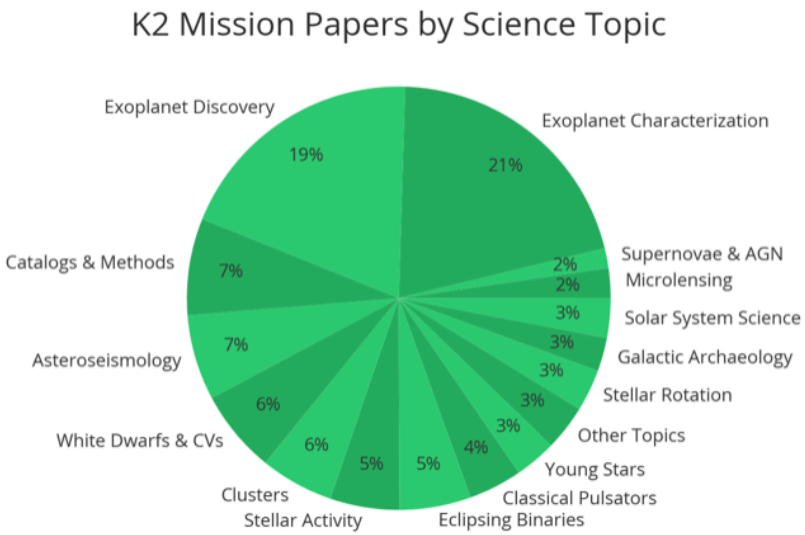

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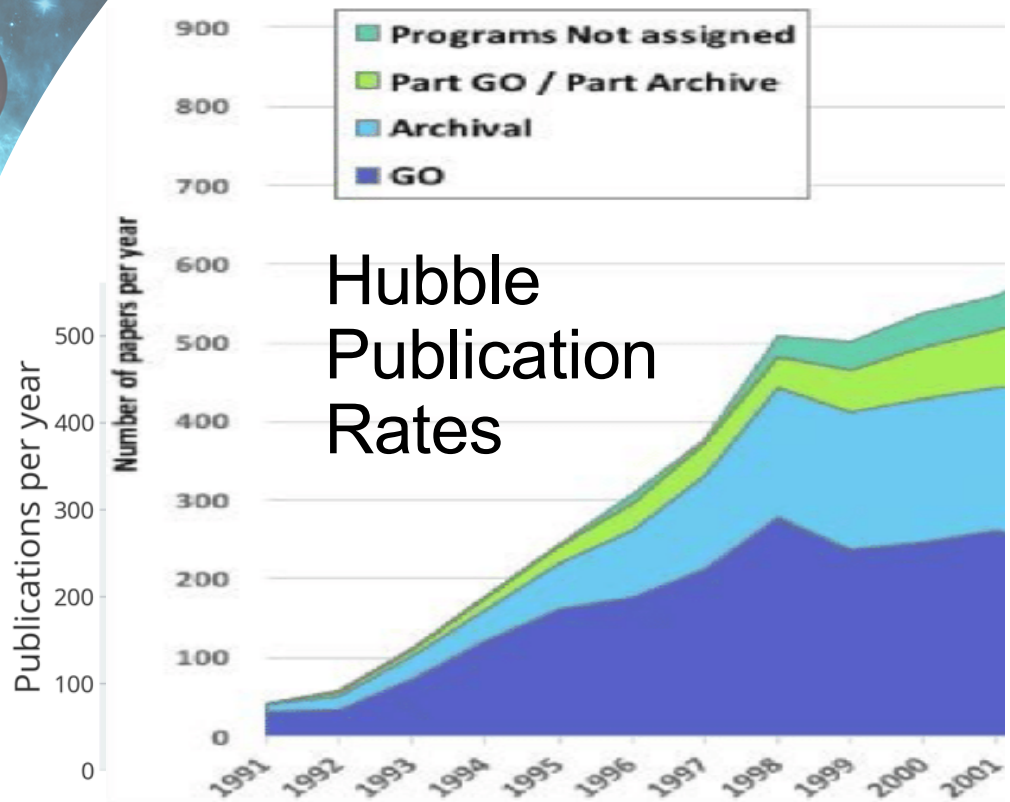
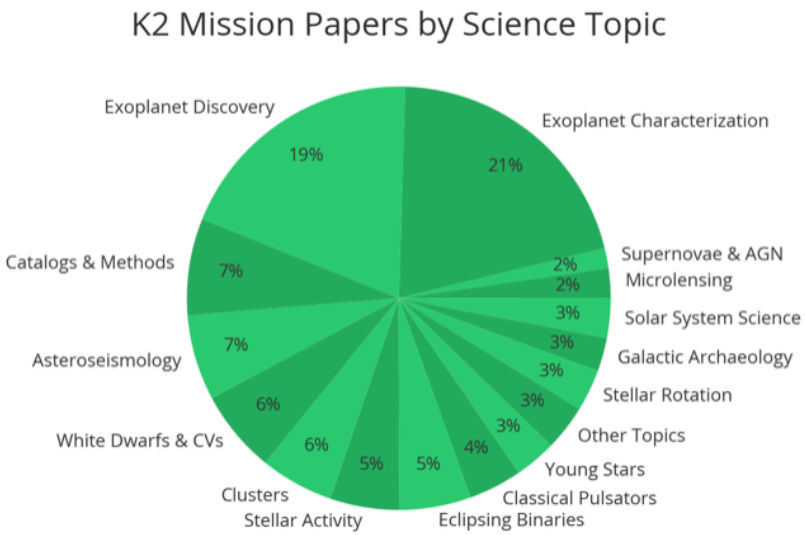
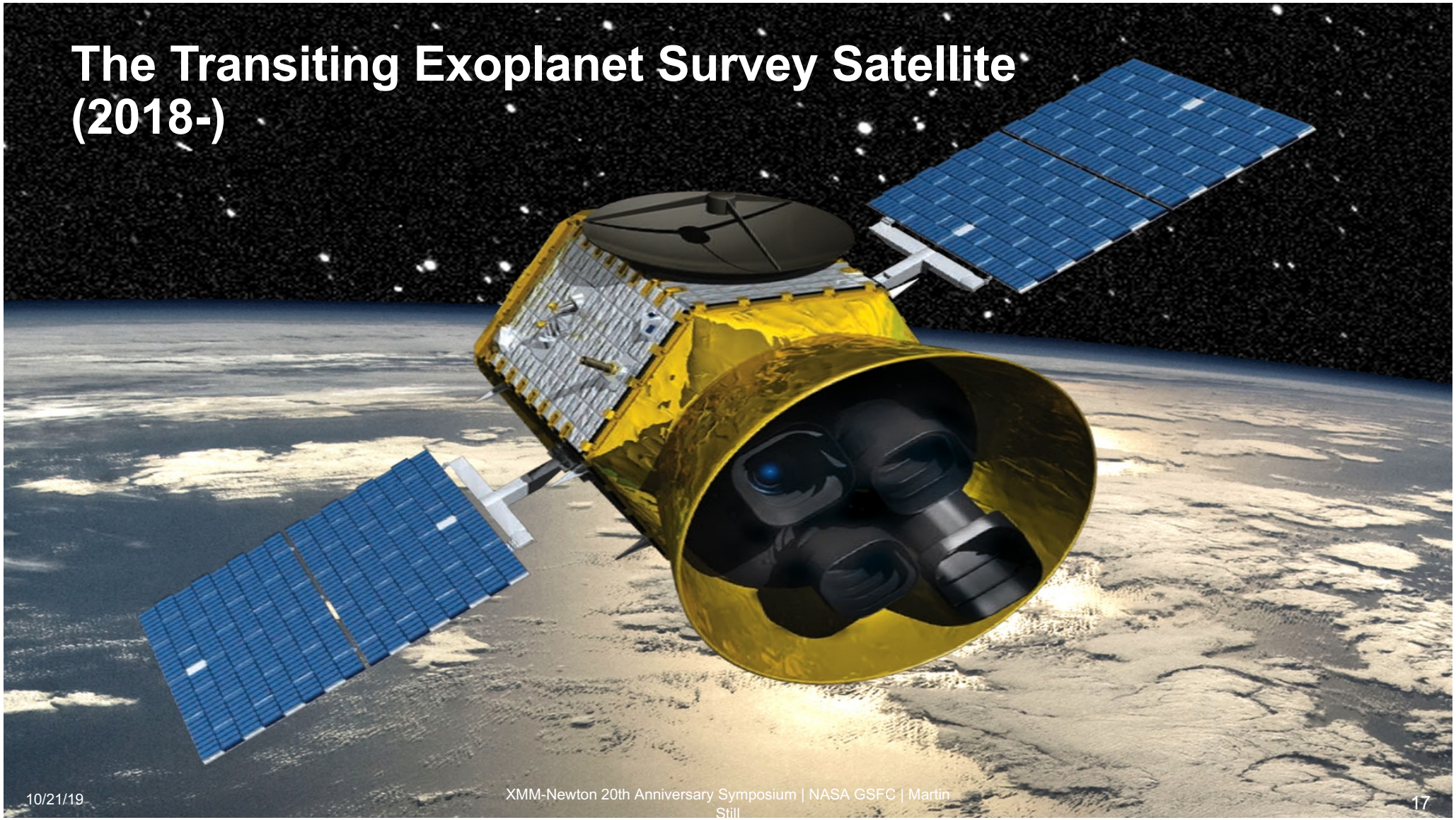


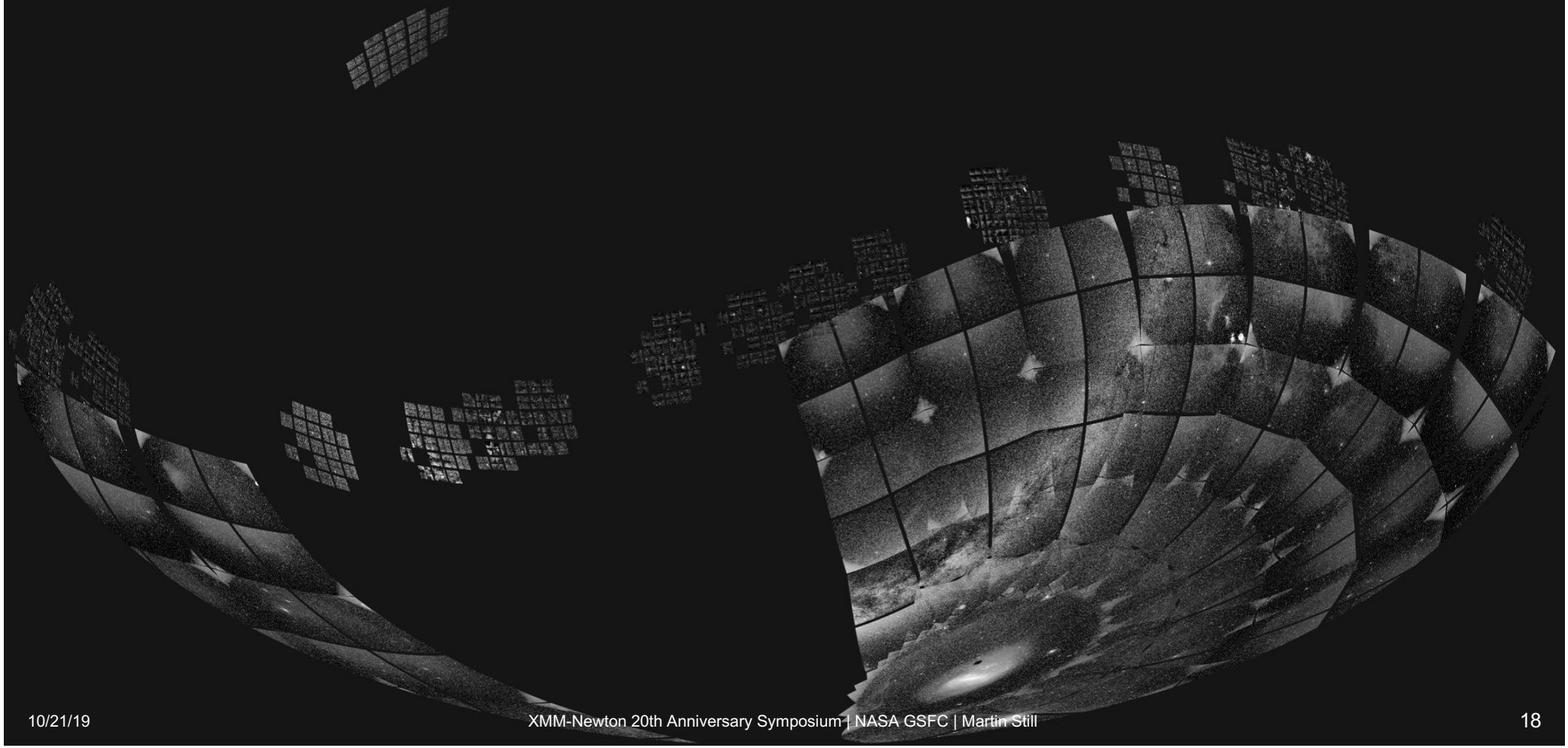


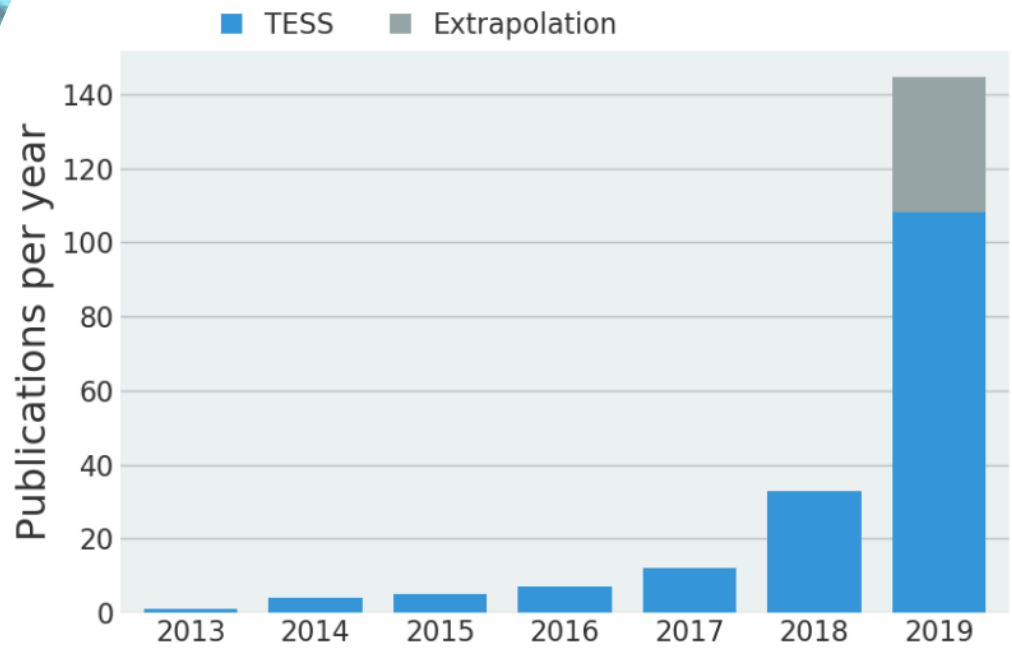
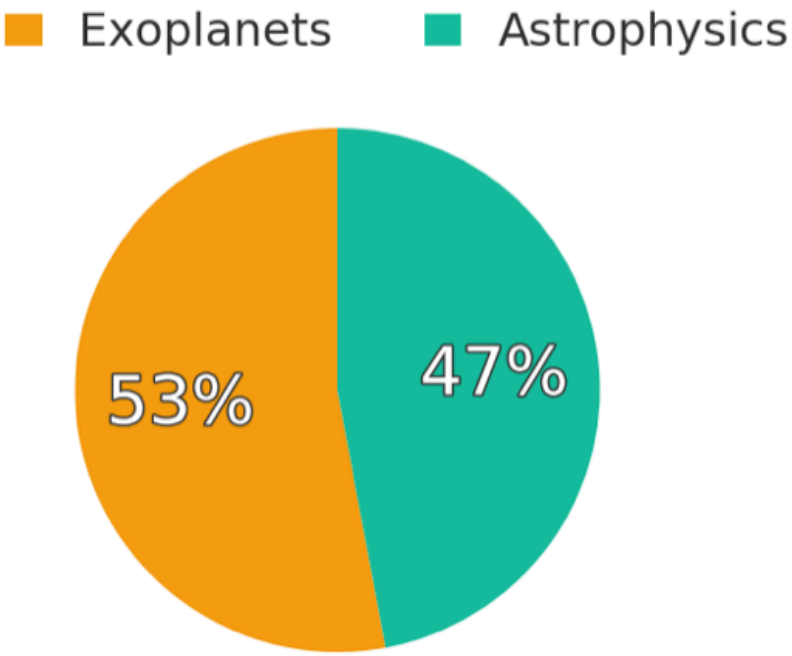
The Transiting Exoplanet Survey Satellite (2018-)



Ongoing: The TESS Near-All-Sky Survey

Credit: Jonathan Irwin (Harvard CfA)



The TESS Guest Investigator Program

https://heasarc.gsfc.nasa.gov/docs/tess