



The Spanish Dancer Puts on a Show: The 2018 Outburst of NGC 1566

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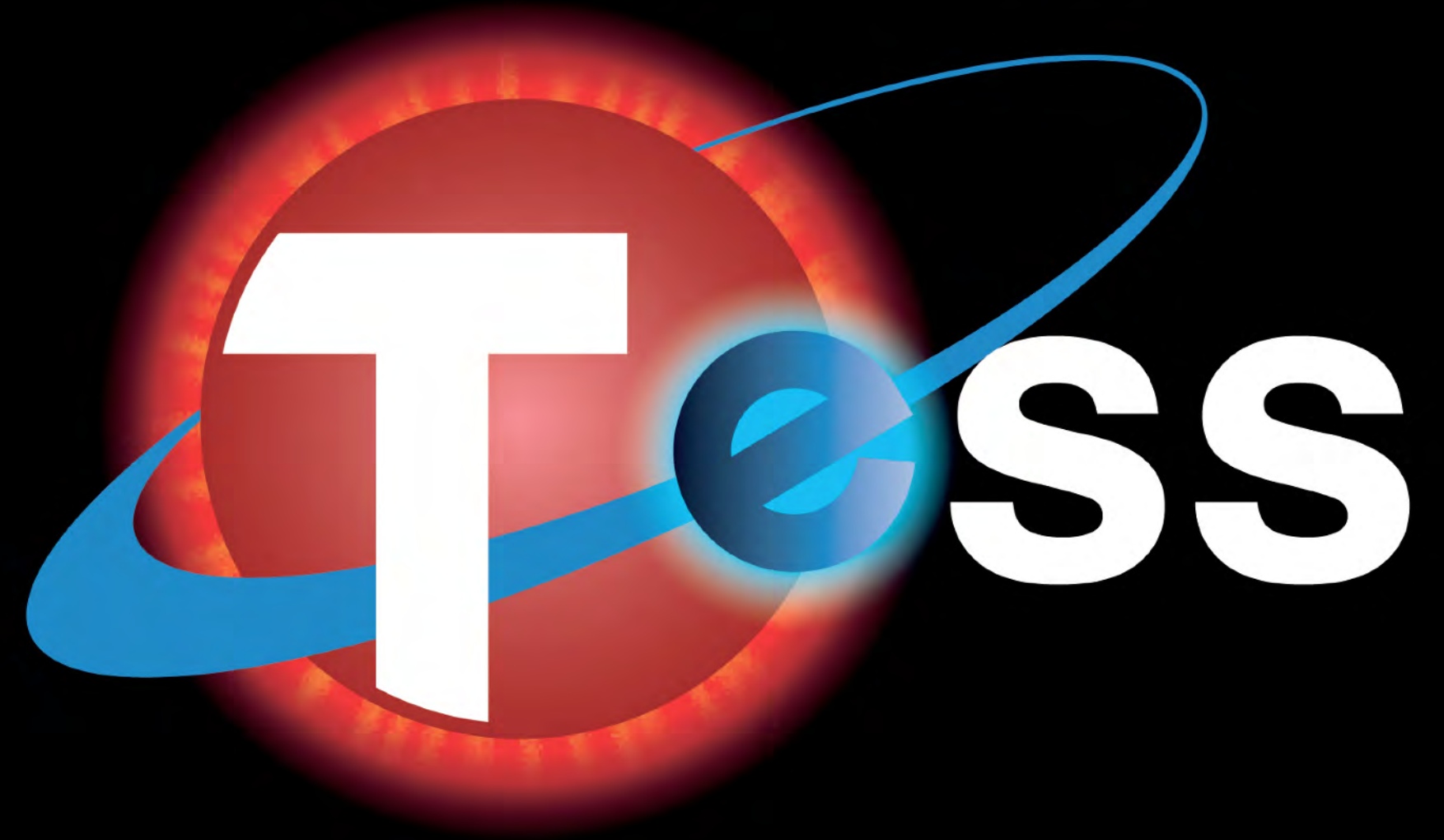
Michael Fausnaugh (MIT)

Christopher Kochanek & Krzysztof Stanek (The Ohio State University)

TESS Science Conference 2019

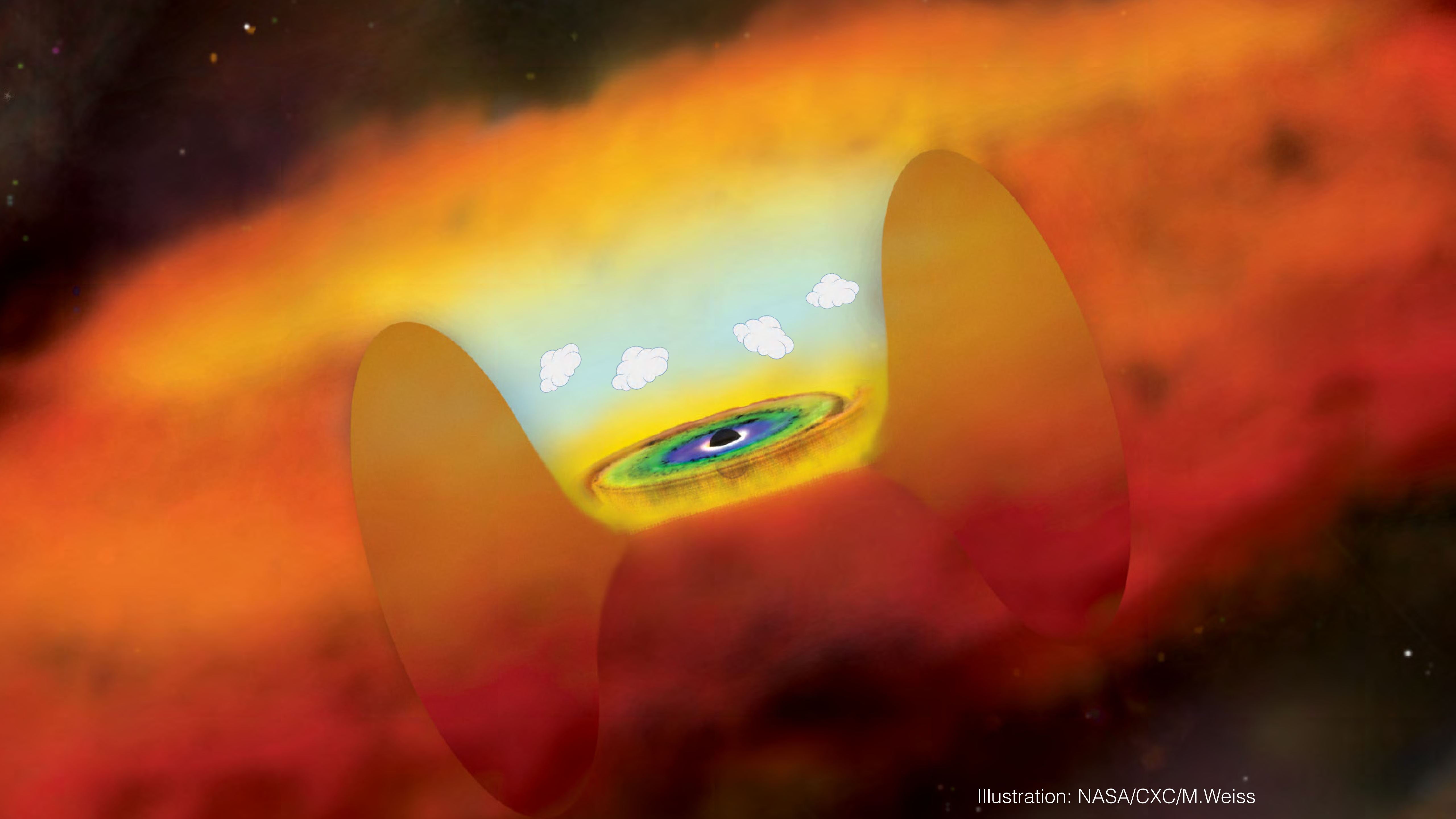
Objective:

Combining ground-based and space observatories to study AGN variability



ASAS SN



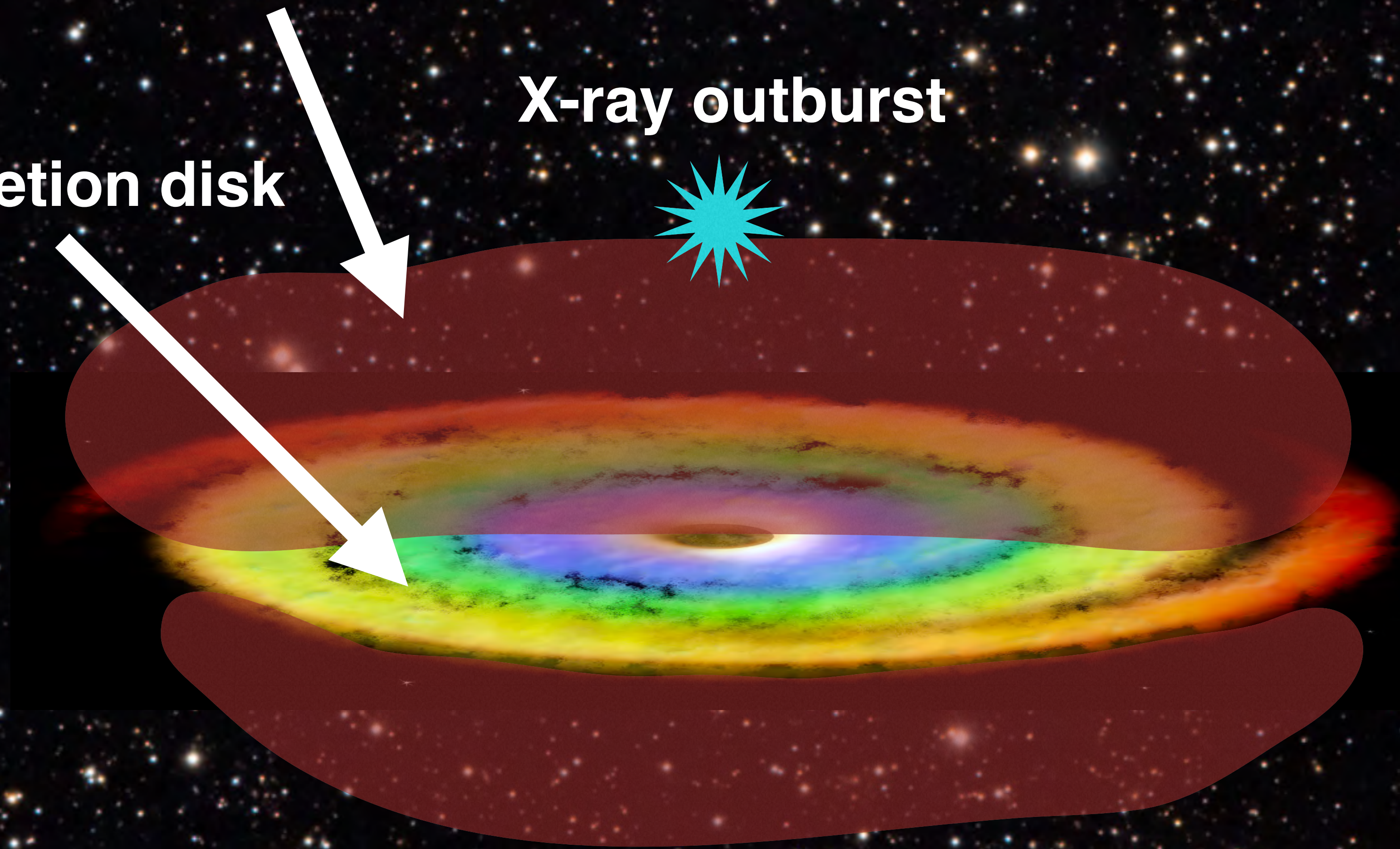


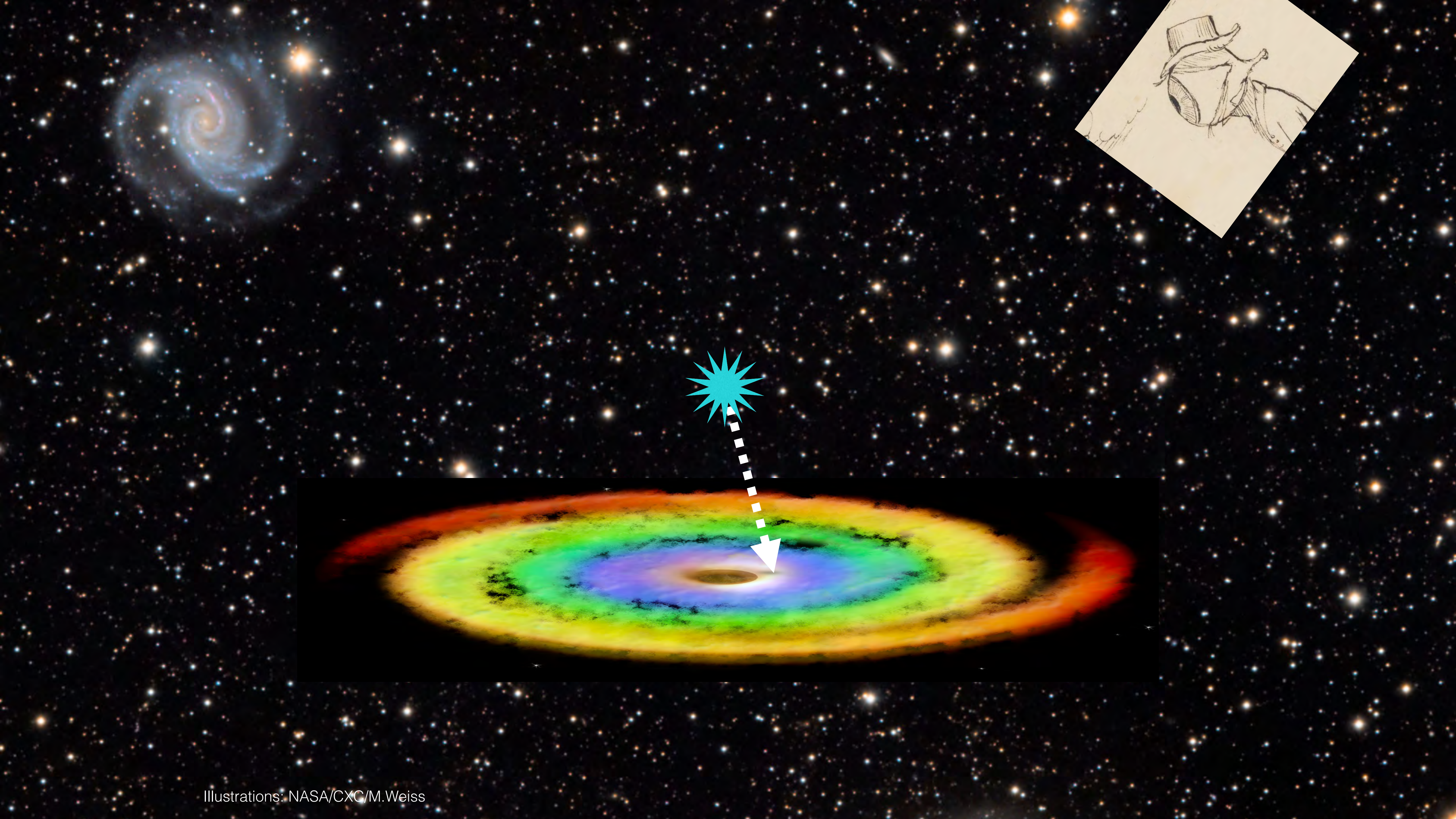


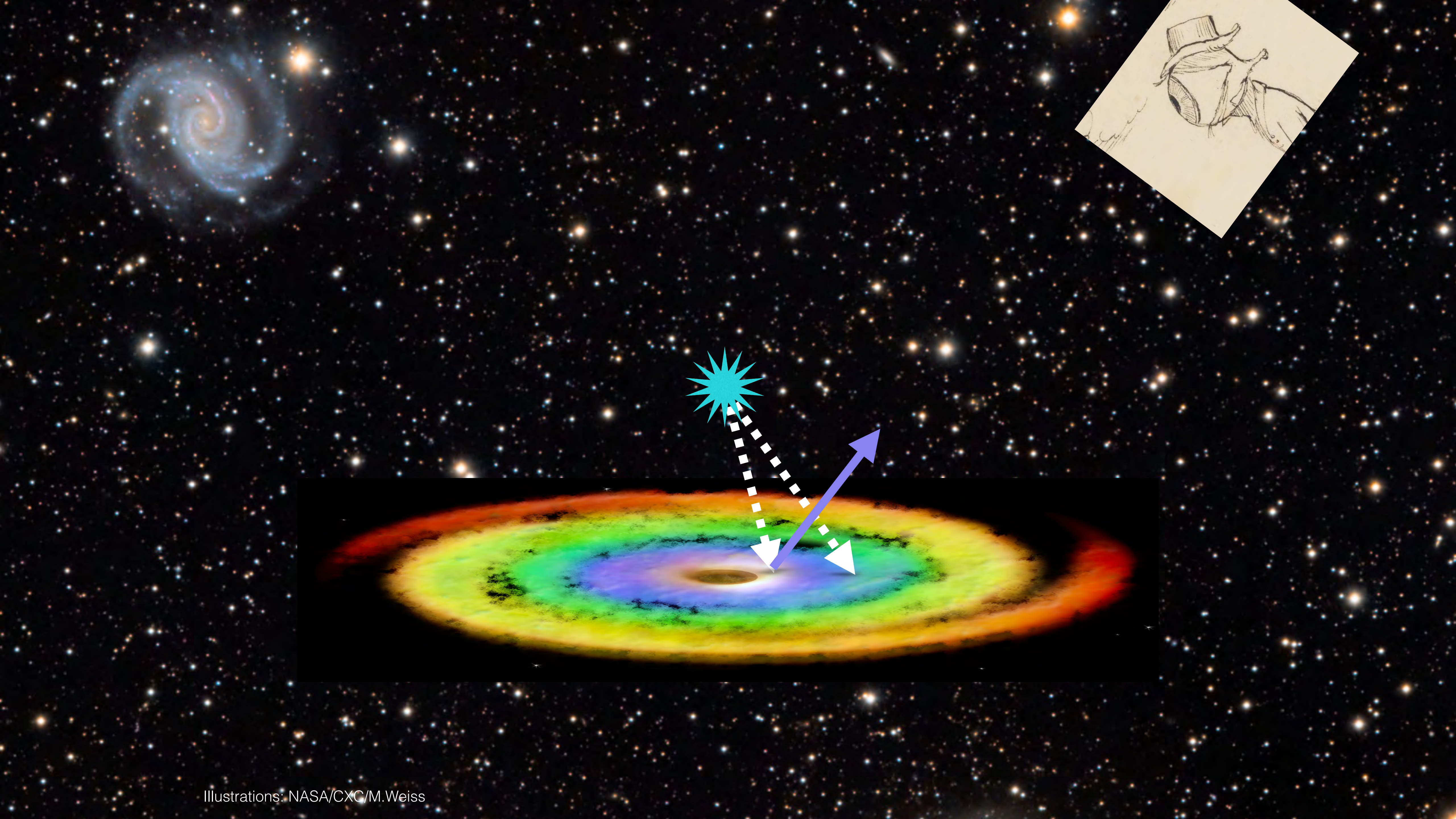
X-ray corona

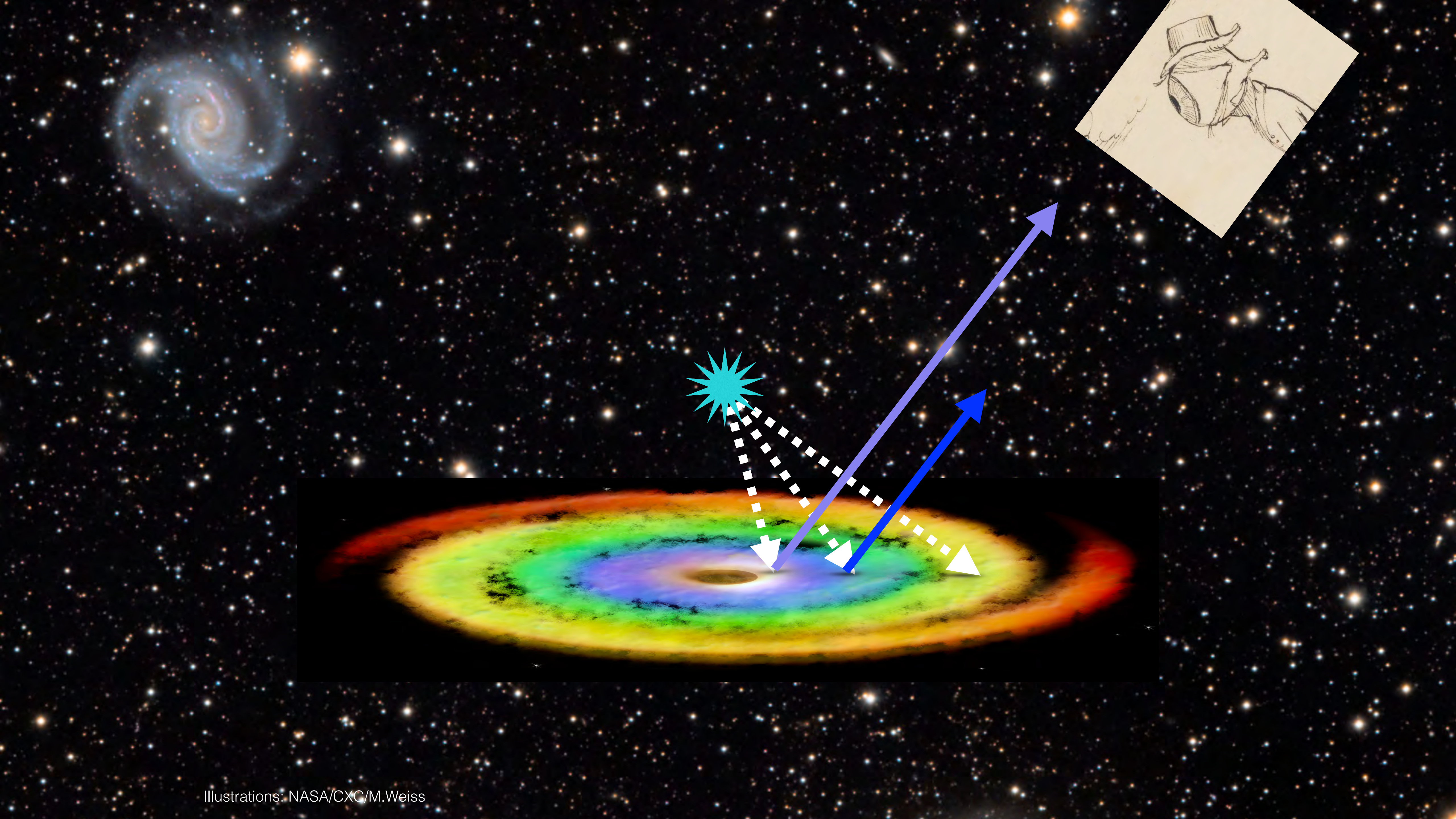
X-ray outburst

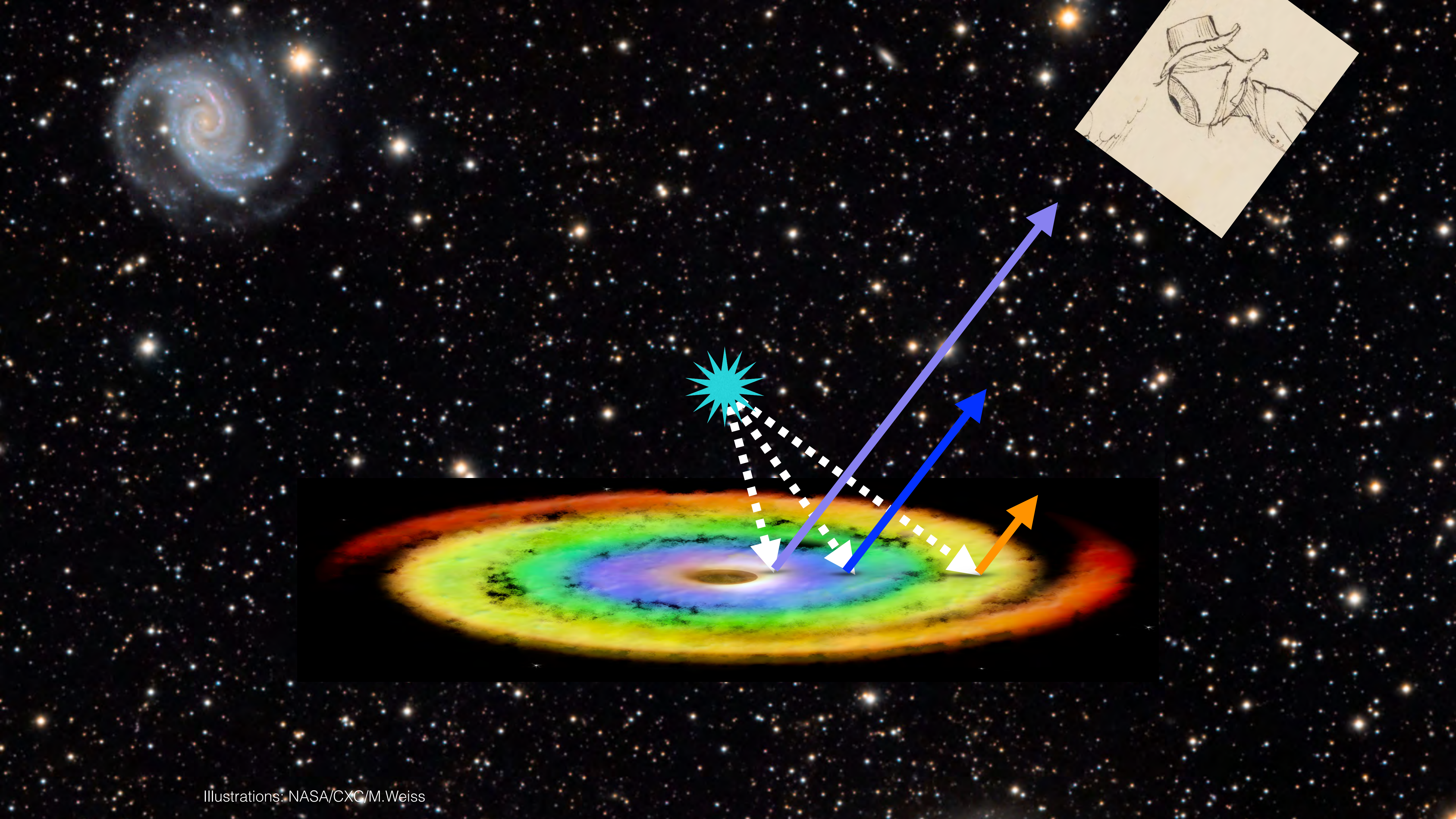
Accretion disk

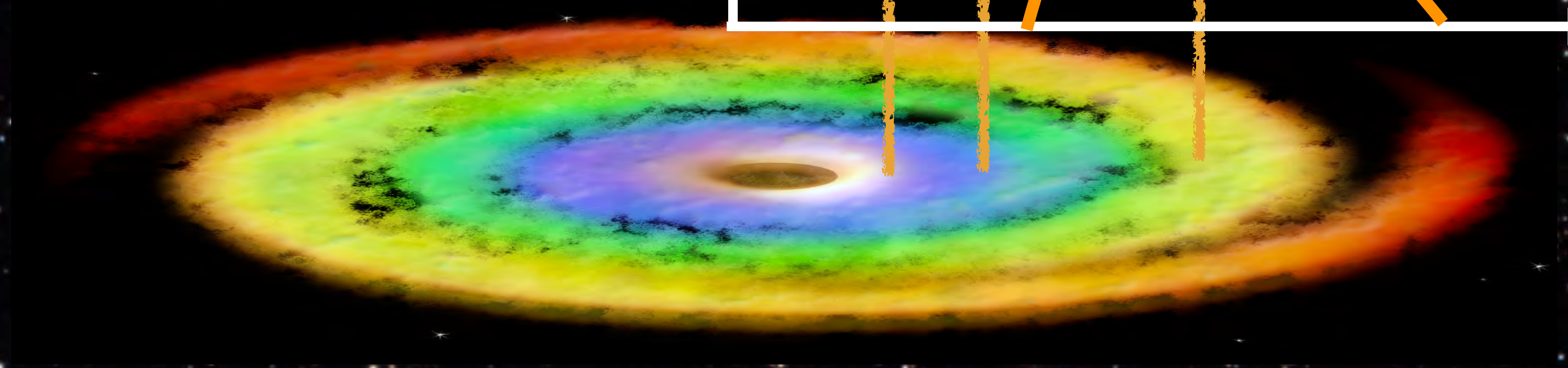
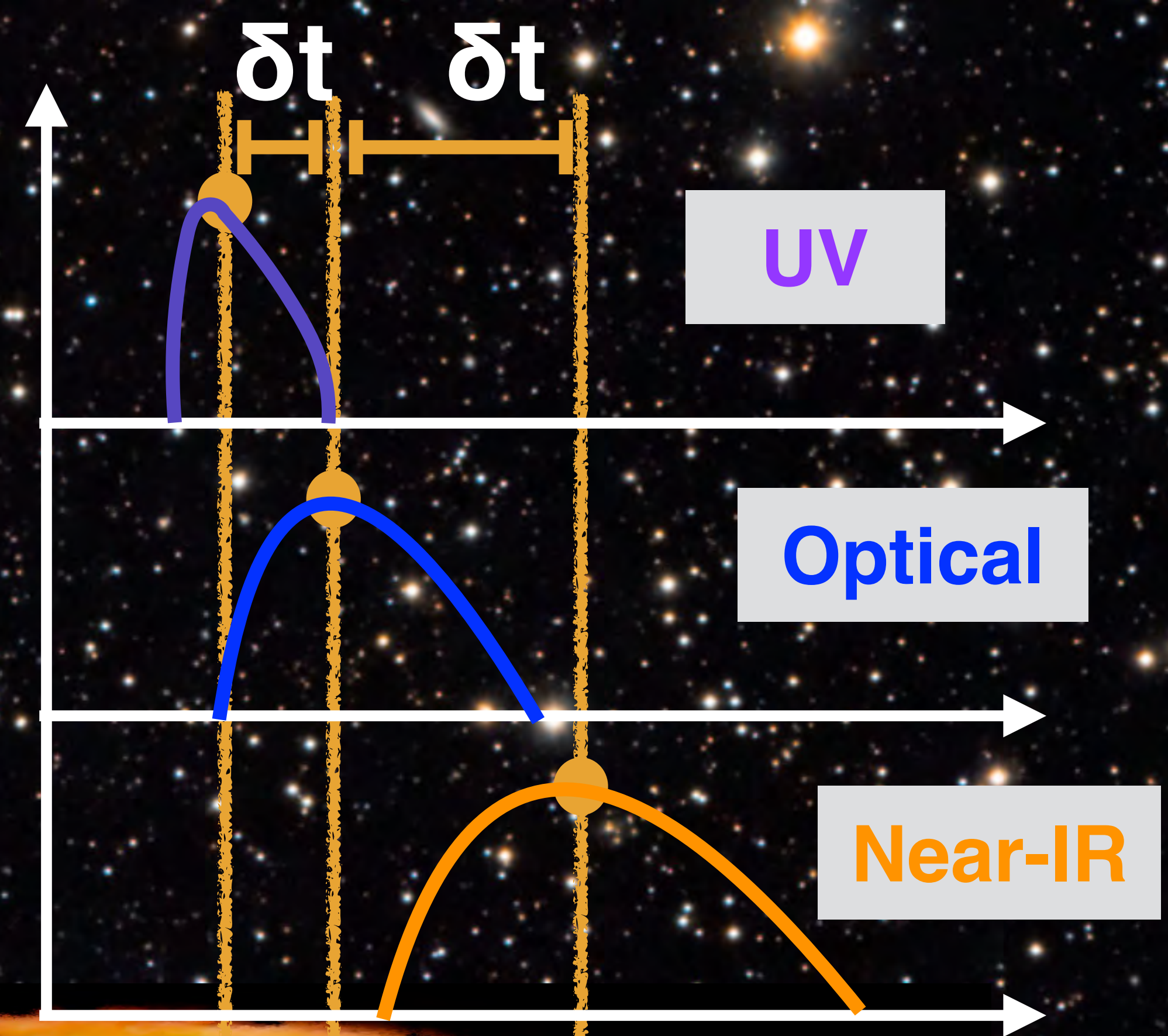




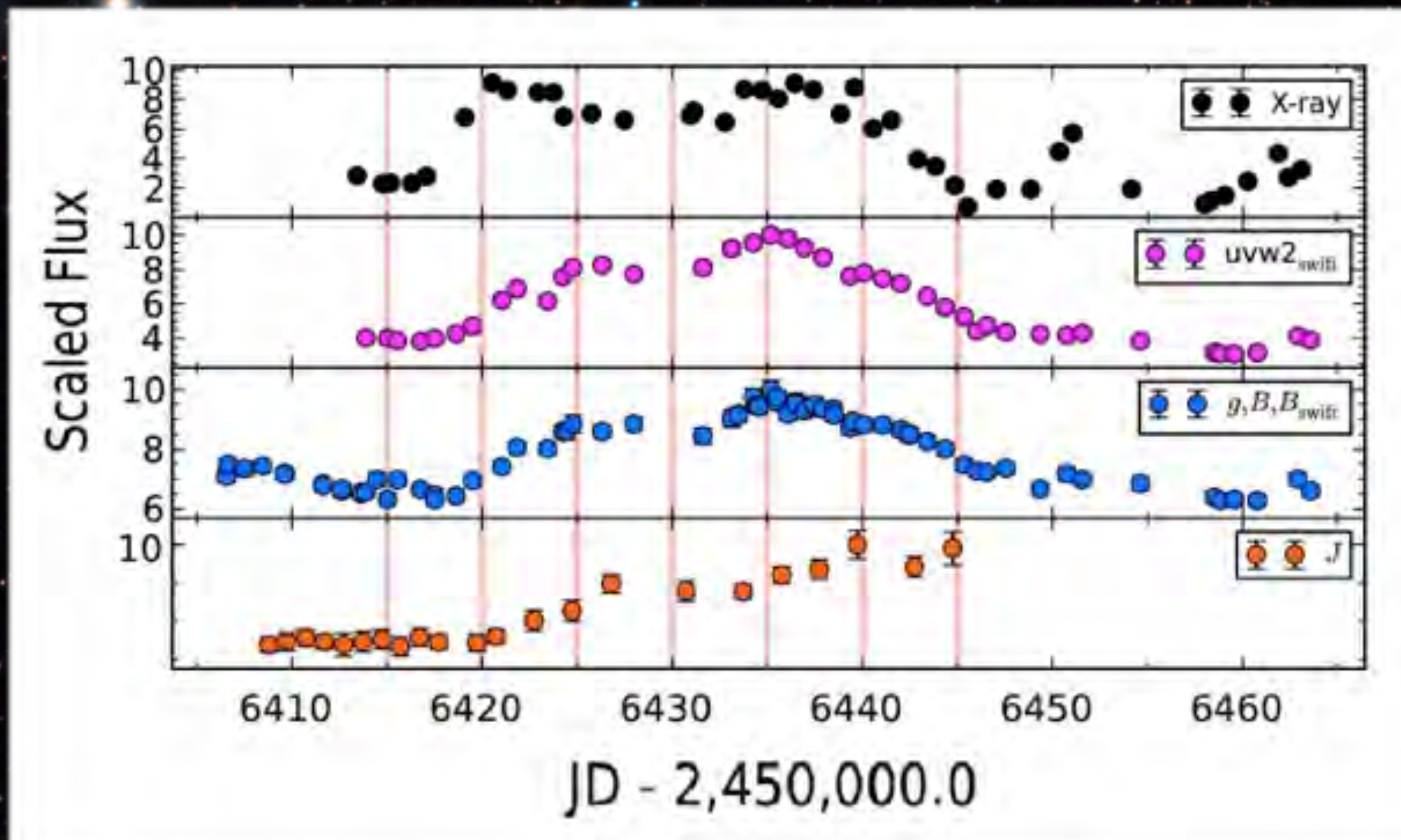








NGC 2617



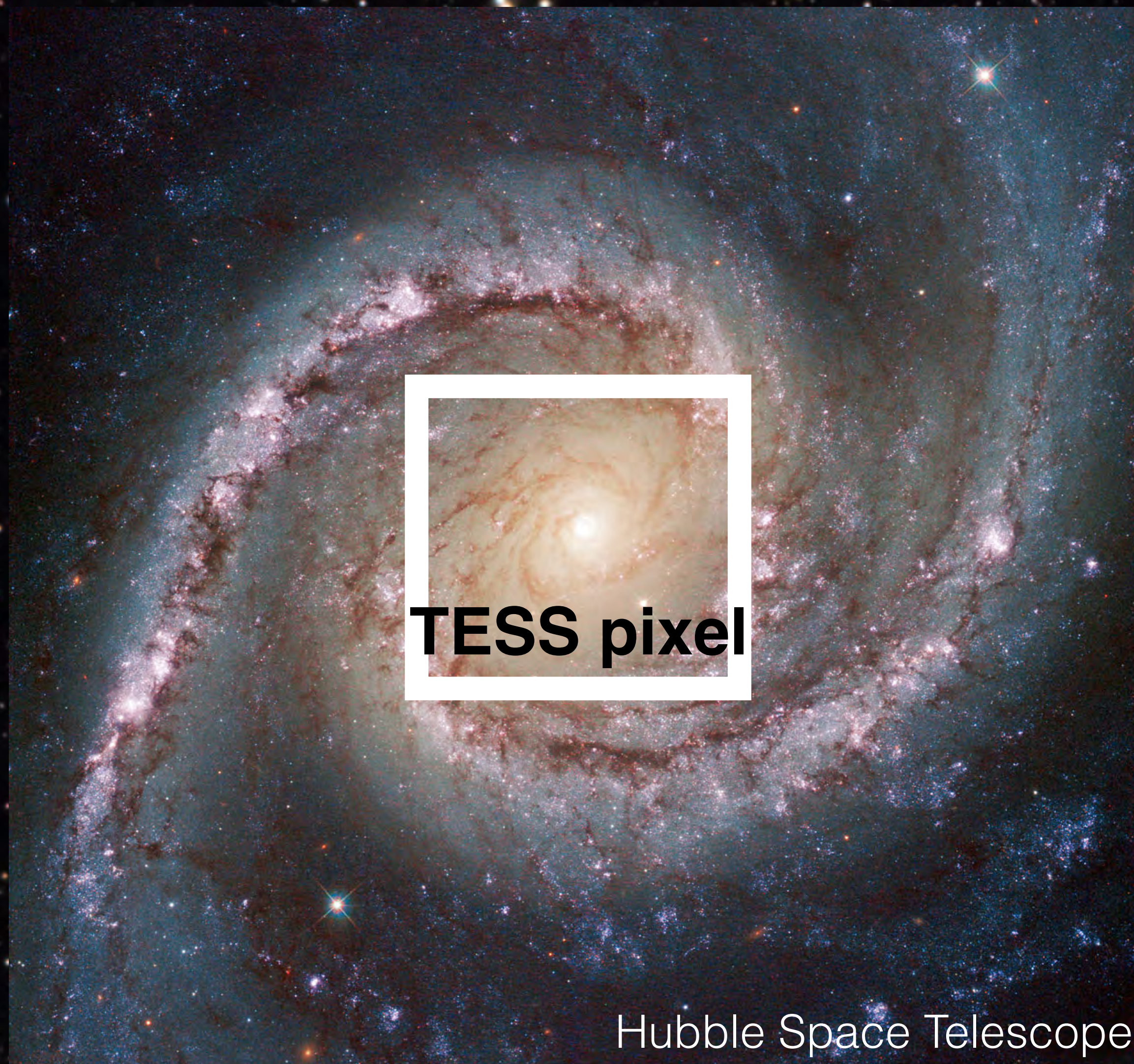
Shappee et al. 2014

**An outburst within NGC 1566 was
detected in 2018**



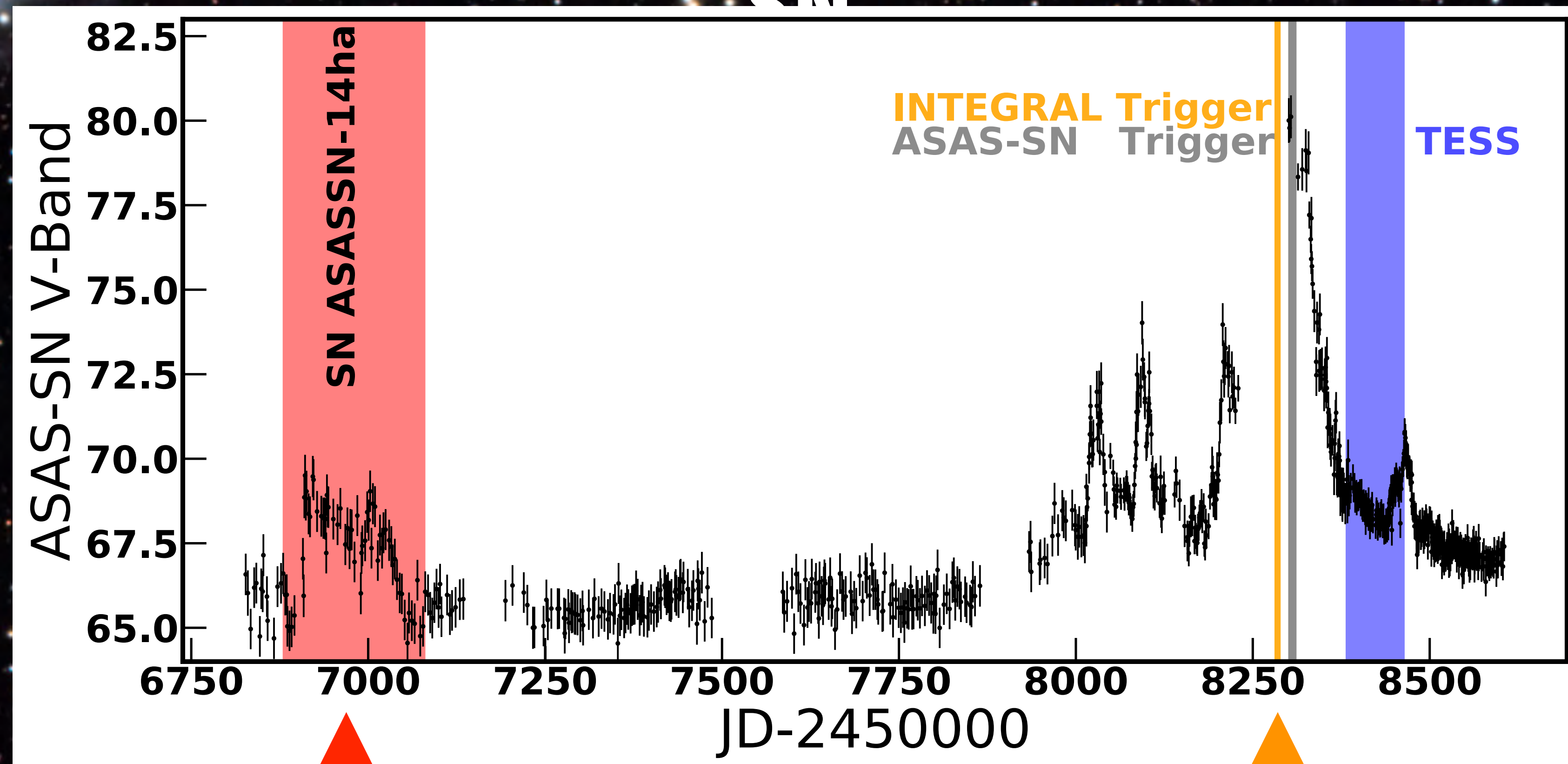
Hubble Space Telescope

An outburst within NGC 1566 was detected in 2018



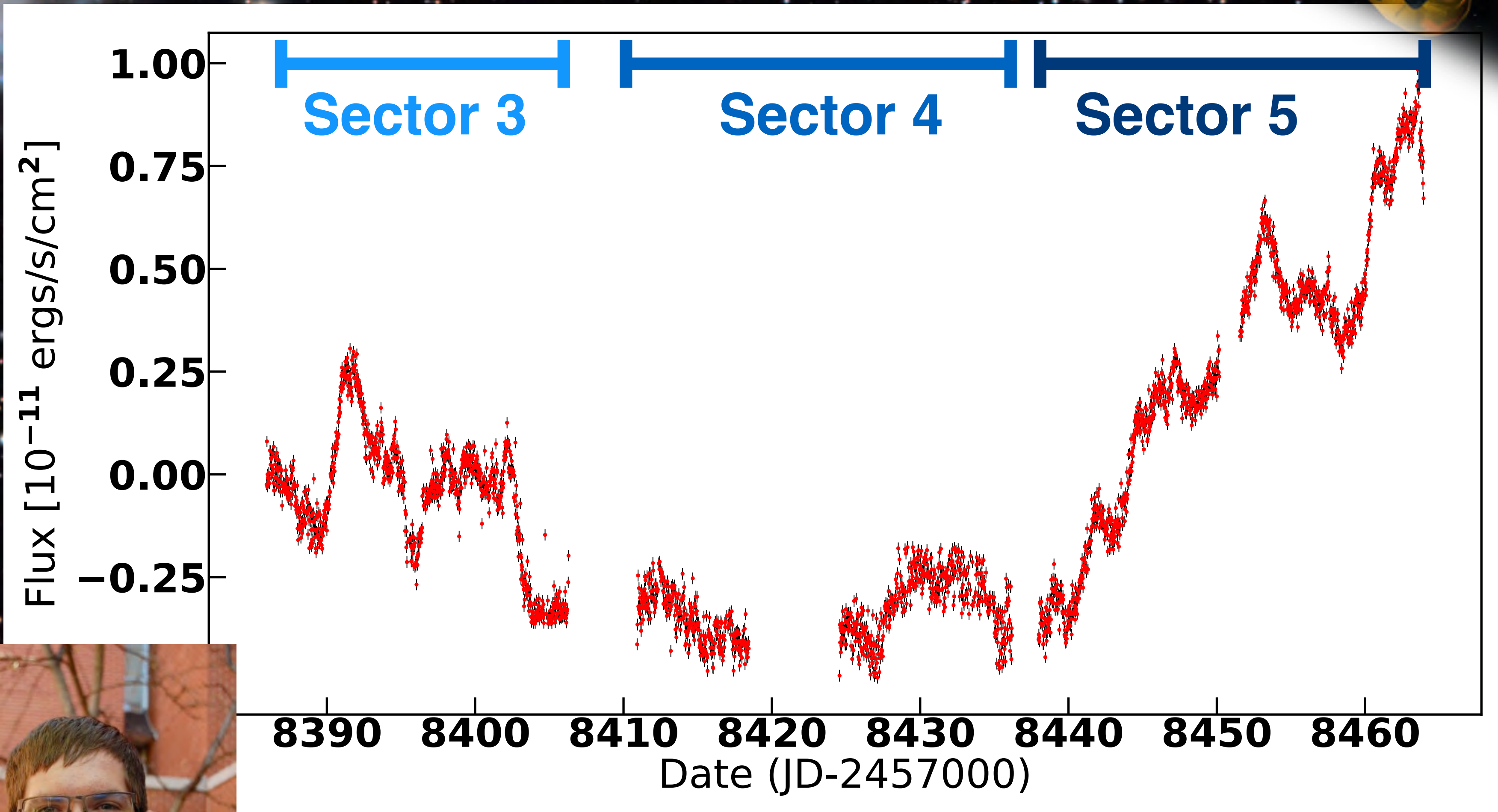
Hubble Space Telescope

Long term variability observed by ASAS-SN



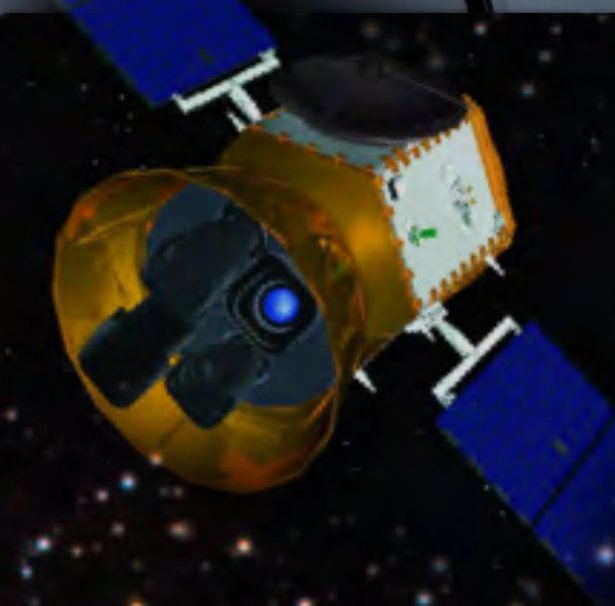
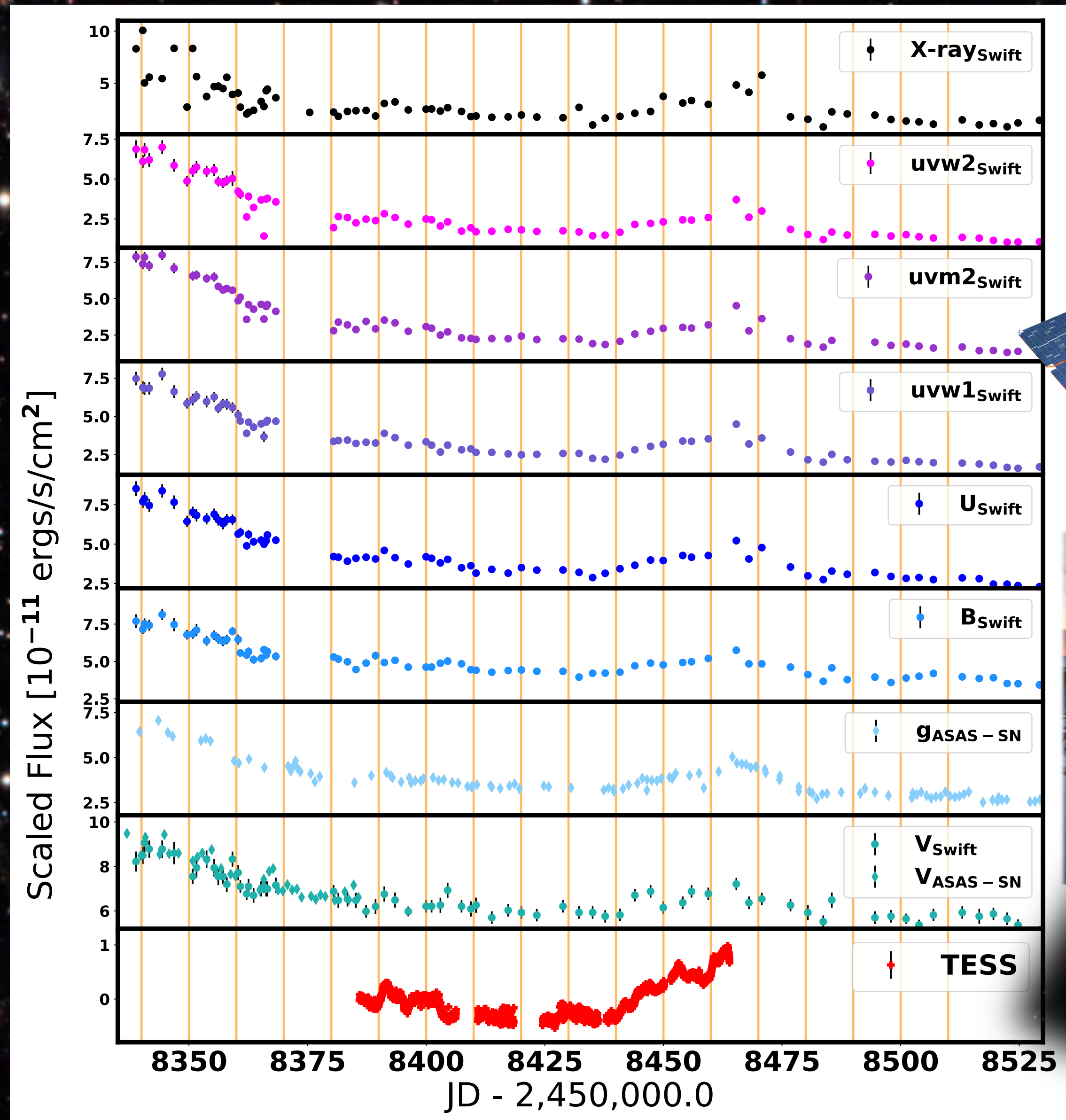
Increase in brightness
due to supernova

Much larger brightness
increase from AGN outburst

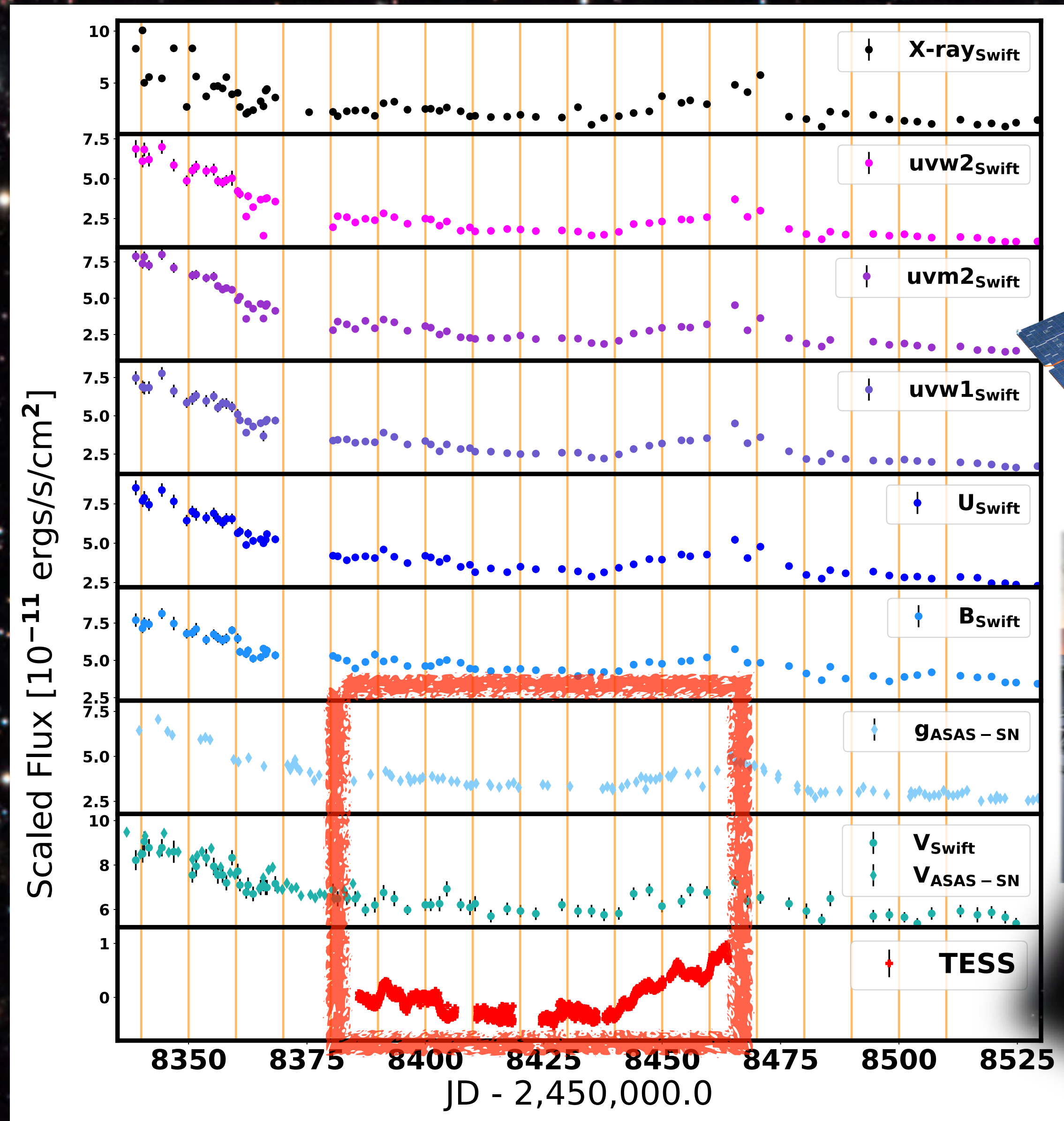


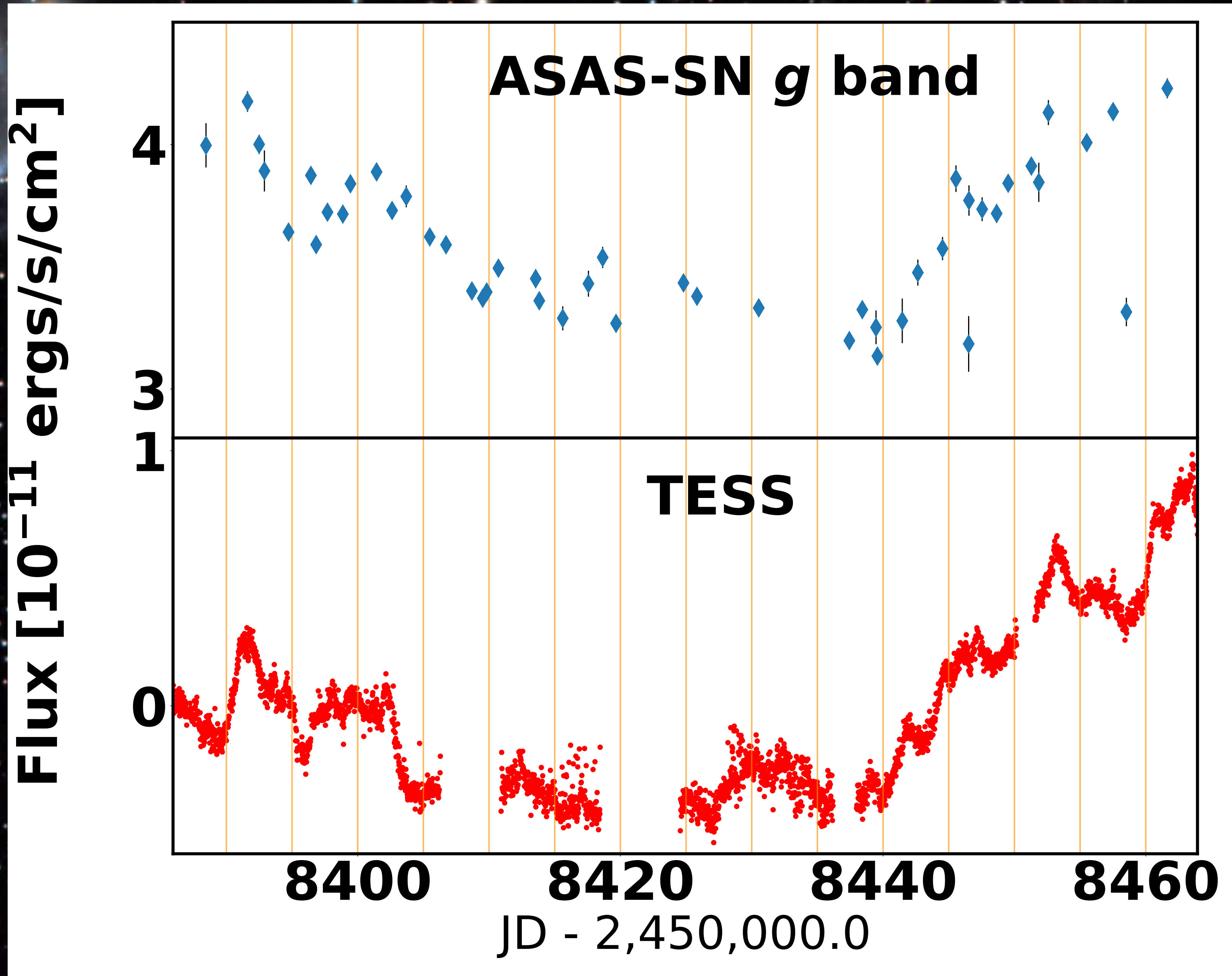
Patrick Vallely

NGC 1566 Multi-wavelength Light Curves

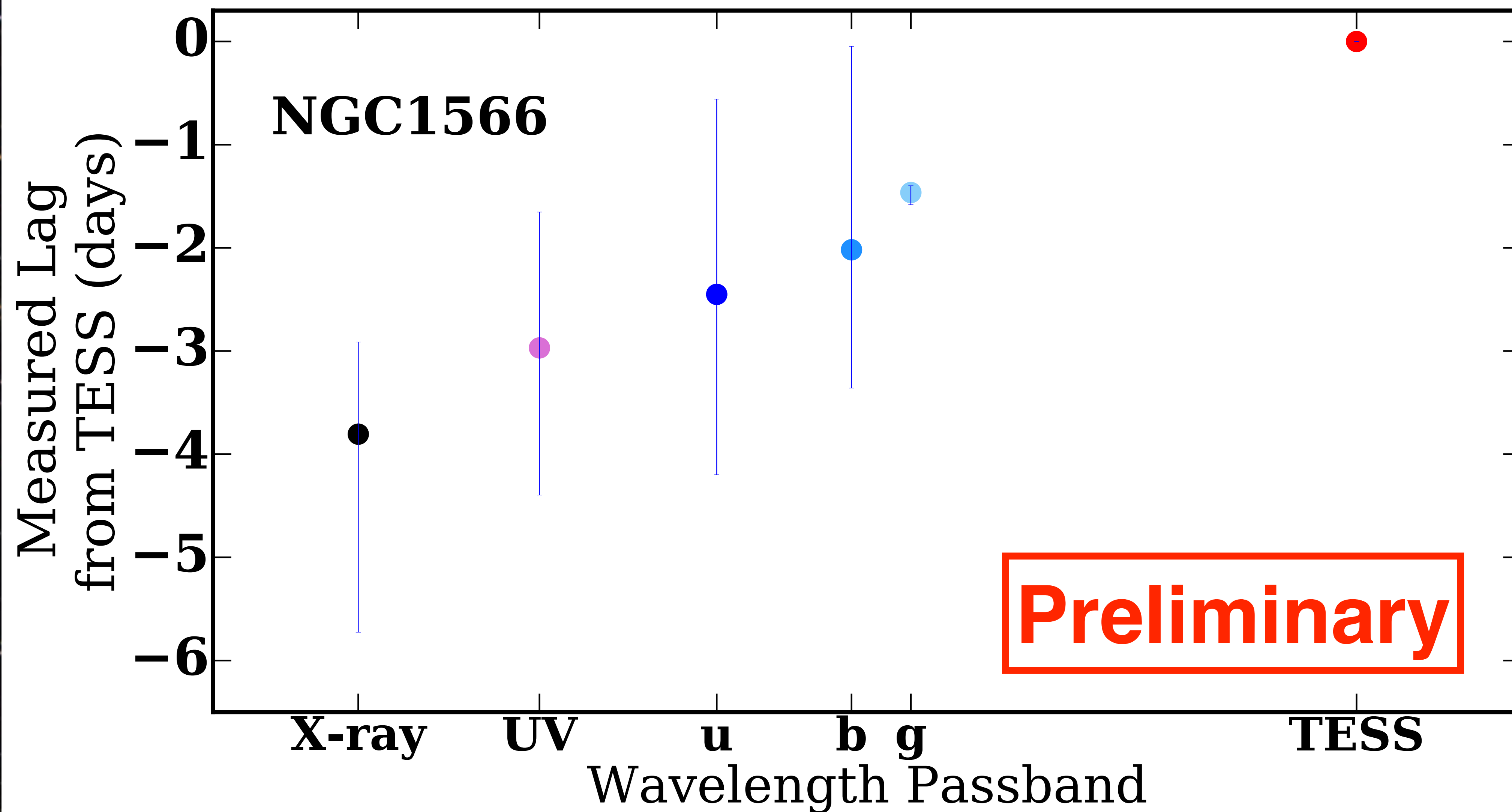


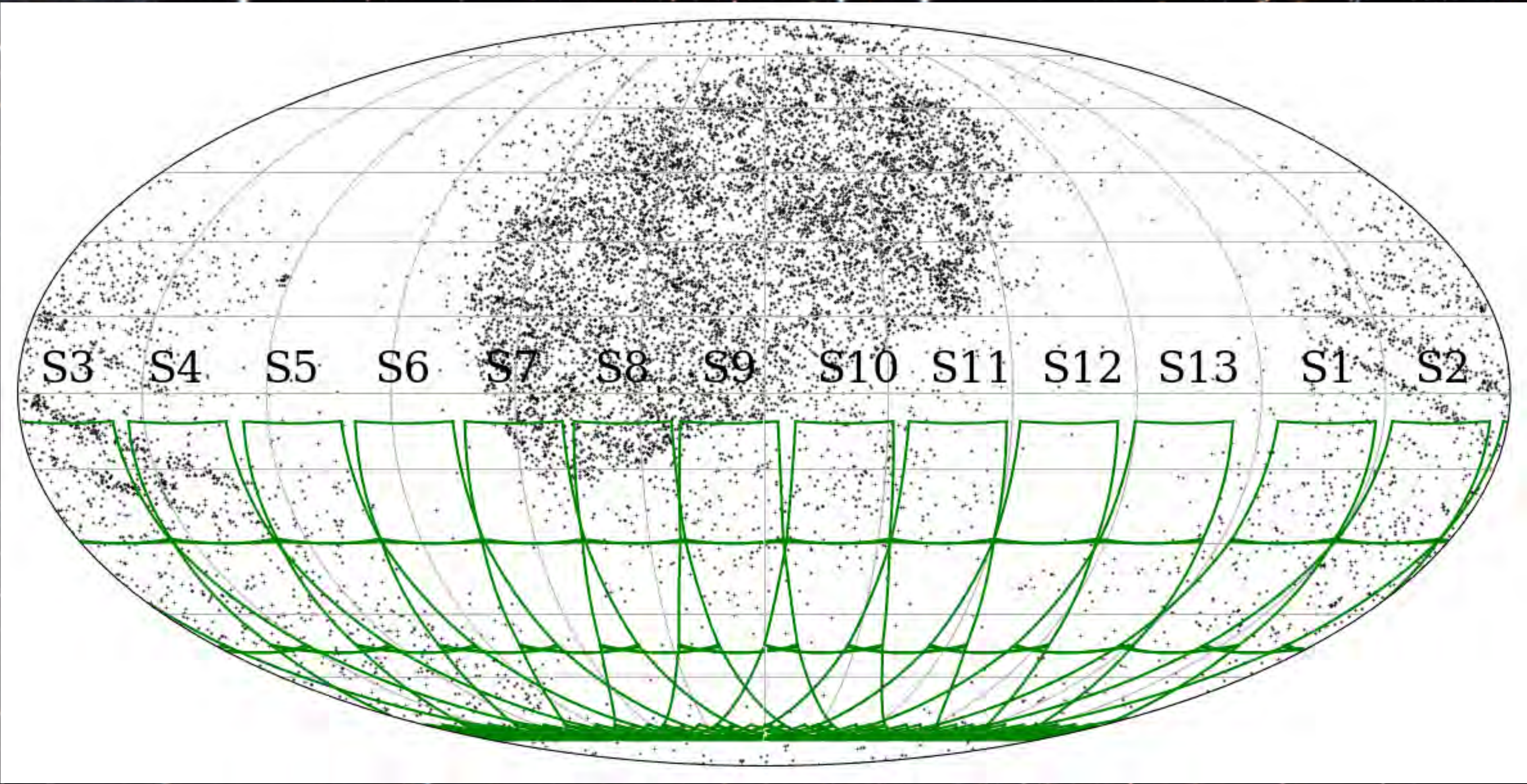
NGC 1566 Multi-wavelength Light Curves





Measured Time Lags





Sky Patrol All-Sky Automated Survey for Supernovae



Compute Coordinate Lightcurve

* Enter J2000.0 Right Ascension:

e.g., 12:00:00.00, or 12 00 00.00, or 180.00000

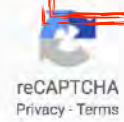
* Enter J2000.0 Declination:

e.g., 03:00:00.0, or 03 00 00.0, or 45.00000

* Enter number of days to go back:

20

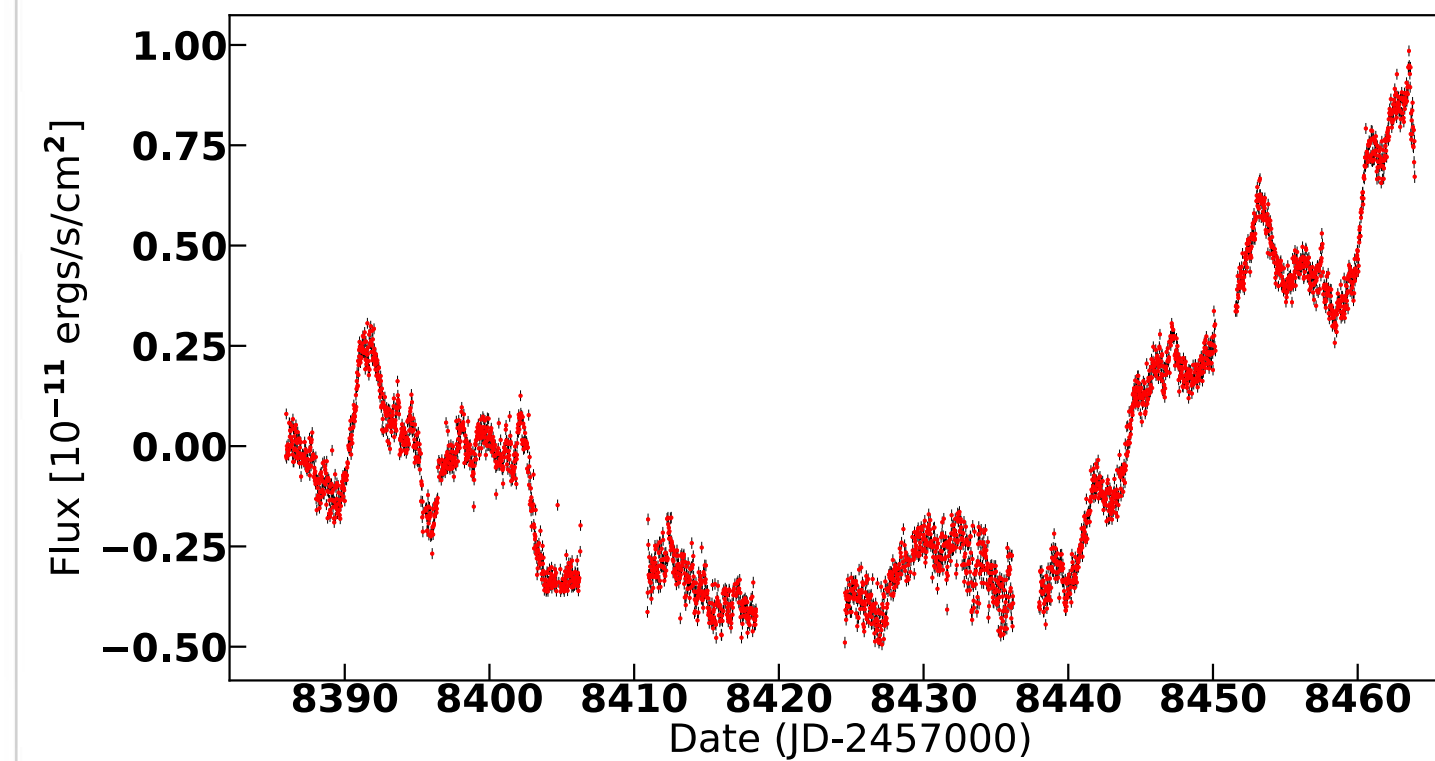
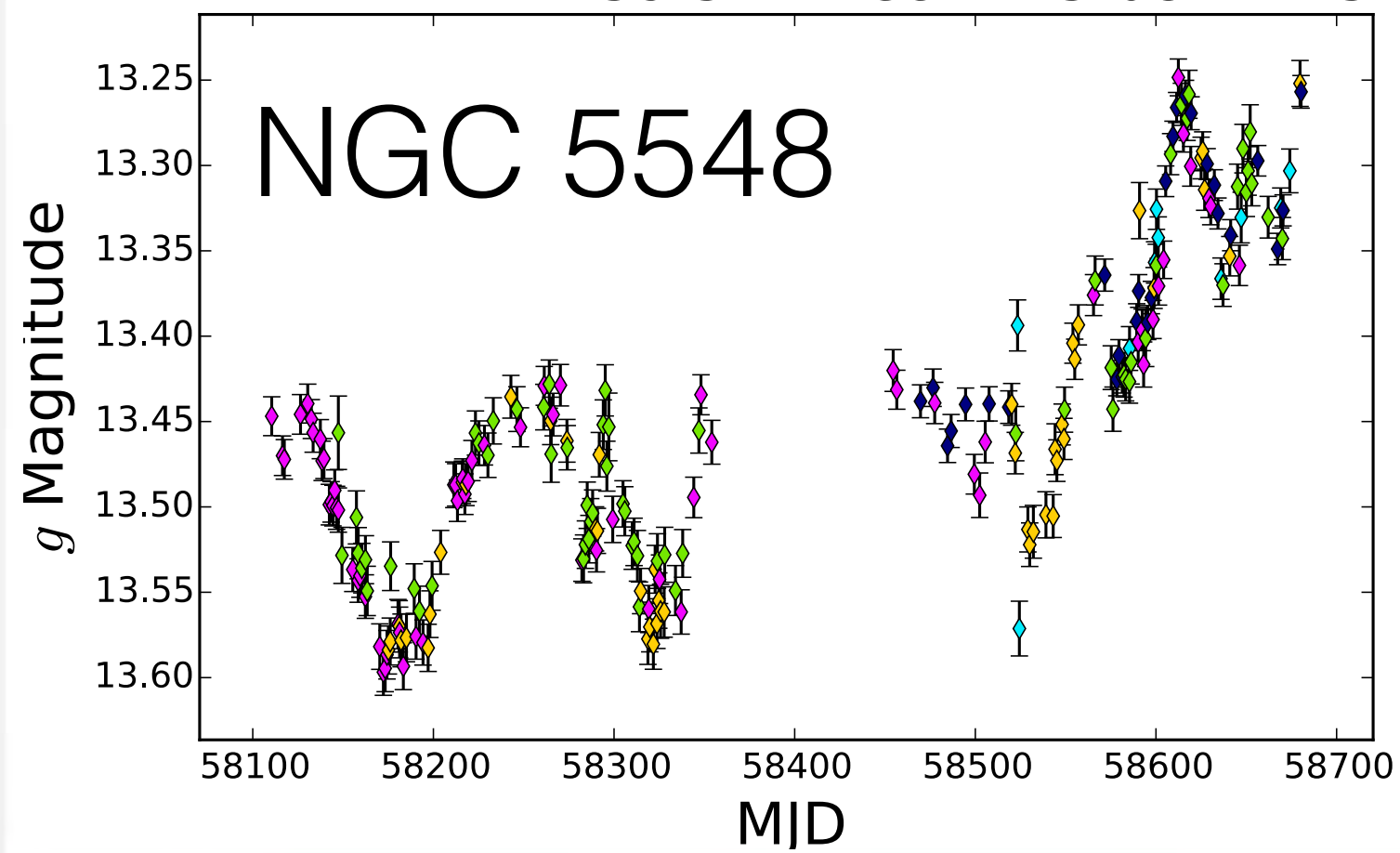
I'm not a robot



Future ASAS-SN+TESS AGN Patrol

Results for the Light Curve at (214.498058 , 25.136790) From bj to br

R.A. = 14:17:59.51 Dec = 25:08:12.45



Export Data

[CSV](#)

[Excel](#)

[Plot](#)

Links

[Enter Another Coordinate](#)

[View on Vizier](#)

HJD	UT Date	Camera	Filter	FWHM	Limit	Mag	Mag Error	Flux (mJy)	Flux Error
2458583.73676	2019-04-10.2321081	bj	g	1.62	16.436	13.486	0.014	14.648	0.198
2458583.73799	2019-04-10.2333402	bj	g	1.61	16.442	13.488	0.014	14.611	0.197
2458583.73920	2019-04-10.2345579	bj	g	1.64	16.416	13.500	0.015	14.445	0.202



