



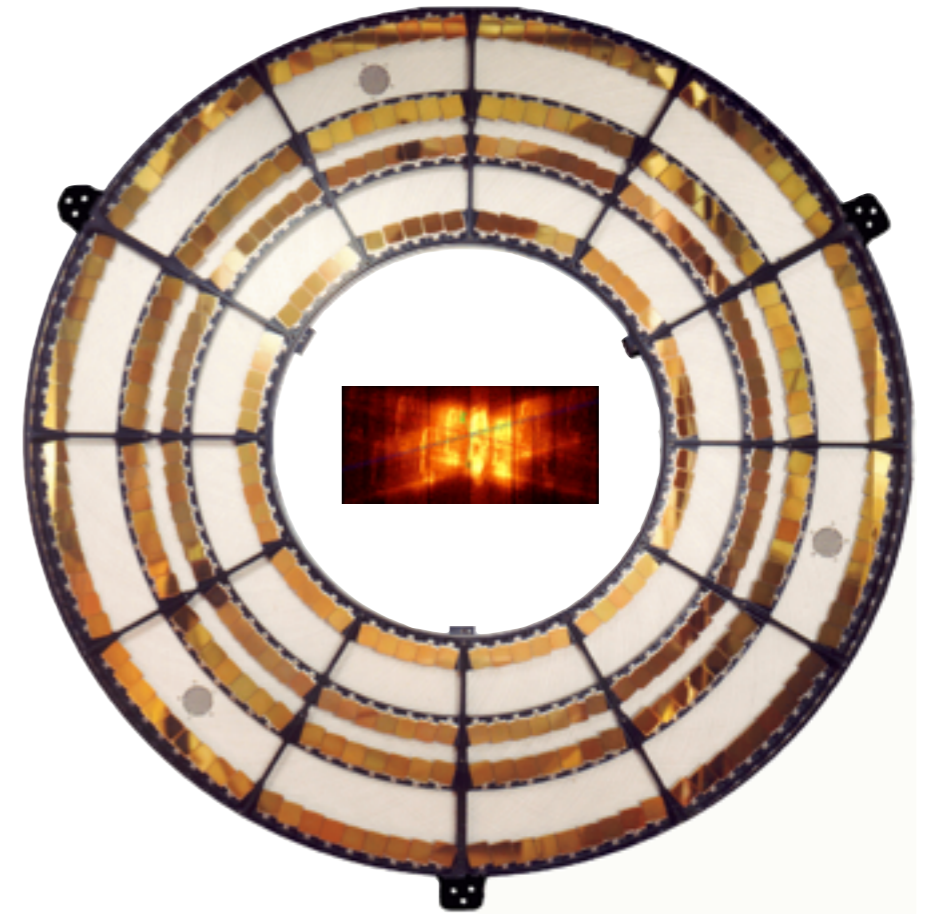
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HETG - Status

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MIT Kavli Institute



Ongoing HETG Team Activities Summary



HETG/ACIS-S Performance (April 2016 — October 2016); 2000 ks

- 54 HETG observations on 23 targets (45/9 GO/GTO)
- 3 HETG Cal observations on 2 targets.

LETG Performance (April 2016 — October 2016); 255 ks

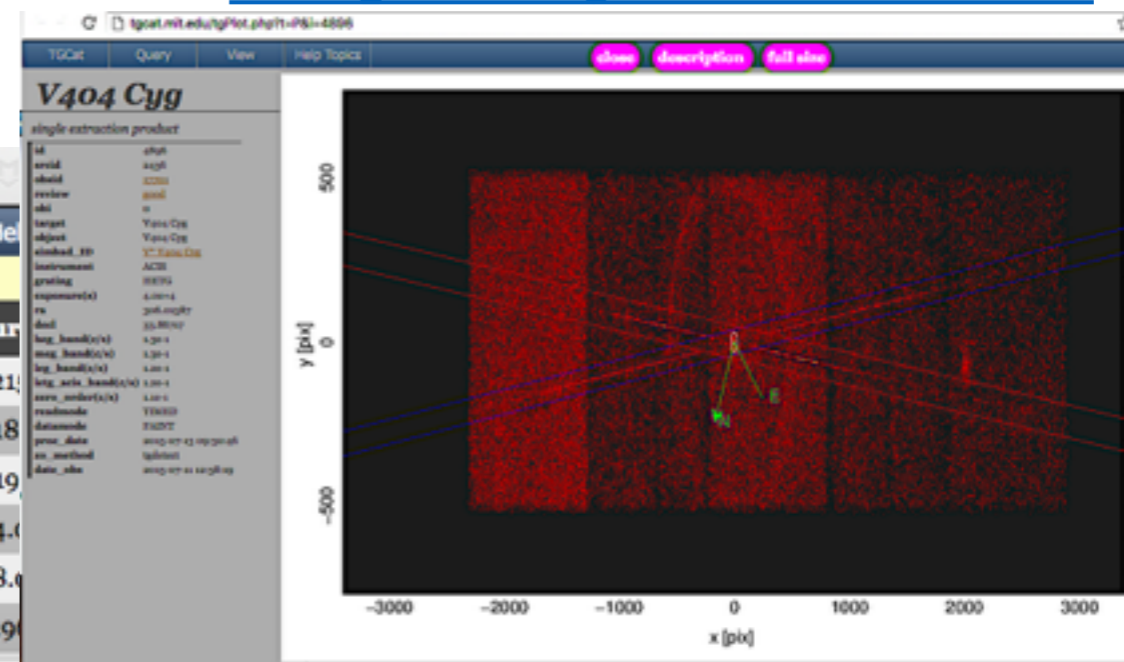
- LETG/HRC-S GO/GTO: 1 observation, 1 target (1/0 GO/GTO)
- LETG/HRC-S Cal: 4 observations on 2 targets
- LETG/ACIS-S GO/GTO Usage: 0
- LETG/ACIS-S Cal: 6 observations, 3 targets

Grating performance is nominal.

<http://tgcat.mit.edu>

TGCat has 1,670 extractions for 452 objects

+-	Links	obsid	object	instrument	grating	ra (h:m:s)	decl (d:m:s)	date_obs (y-m-d t)	exposure
<input type="checkbox"/>	o p v s	17696	V404 Cyg	ACIS	HETG	20:24:03.830	+33:52:02.208	2015-06-22 13:40:27	2921
<input type="checkbox"/>	o p v s	17701	V404 Cyg	ACIS	HETG	20:24:03.809	+33:52:01.812	2015-07-11 12:58:19	39518
<input type="checkbox"/>	o p v s	17697	V404 Cyg	ACIS	HETG	20:24:03.830	+33:52:01.740	2015-06-23 21:26:38	24619
<input type="checkbox"/>	o p v s	16702	V404 Cyg	ACIS	HETG	20:24:03.802	+33:52:01.704	2015-07-15 03:17:33	4014
<input type="checkbox"/>	o p v s	16703	V404 Cyg	ACIS	HETG	20:24:03.802	+33:52:01.776	2015-07-20 03:56:56	8848
<input type="checkbox"/>	o p v s	16704	V404 Cyg	ACIS	HETG	20:24:03.816	+33:52:01.992	2015-07-23 08:32:00	1929



Ongoing HETG Team Activities



GTO Science Program

Cycle 17:			
★ Hot star + NS:	Vela X-1	180 ks	clumpy winds; phase 0.15 — 0.45
★ XRB:	SMC X-1	100 ks	TOO; pulsar, high state, emis/abs lines (observed)
★ AGN:	NGC 3227	150 ks	Seyfert; warm absorber, soft excess
★ Hot Star:	WR 25	90 ks	colliding winds, near periastron (observed)
★ LMXB:	GX 3+1	130 ks	resolve broad lines
★ NS:	Terzan 5 X-2	200 ks	(un-triggered) TOO; Neutron Star Equation of State
★ LIGO/GW	GW2016	300 ks	(un-triggered TOO) Gravitational wave transient
Cycle 18:			
★ ULX/BH:	NGC 1313 X-1	500 ks	Ultra-luminous source outflow: absorption, emission lines
★ NS/BH:	GRS 1915+105	100 ks	Black hole accretion, line variability
★ XRB:	4U 1626-67	50 ks	Neutron star accretion; Fe K absorption variability
★ NS:	Terzan 5 X-2	200 ks	TOO (10%); Neutron Star Equation of State
★ LIGO/GW:	GW2017nnnn	300 ks	TOO (10%); Gravitational wave transient

Postdoc status/activities:

Dr. Victoria Grinberg → ESTEC/ESA Fellowship; Dr. Lia Corrales → Wisconsin/Einstein Fellowship

Dr. Rozenn Boissay, starts 1 Feb 2017 (Ph.D. U. Geneva, May 2016)

Dr. Paul Hemphill, started 15 Oct 2016 (Ph.D. UCSD, August 2016) [partial GTO support]

Absorption Line Spectroscopy Using HETG/GTO Data... (... but not the GTO team.)



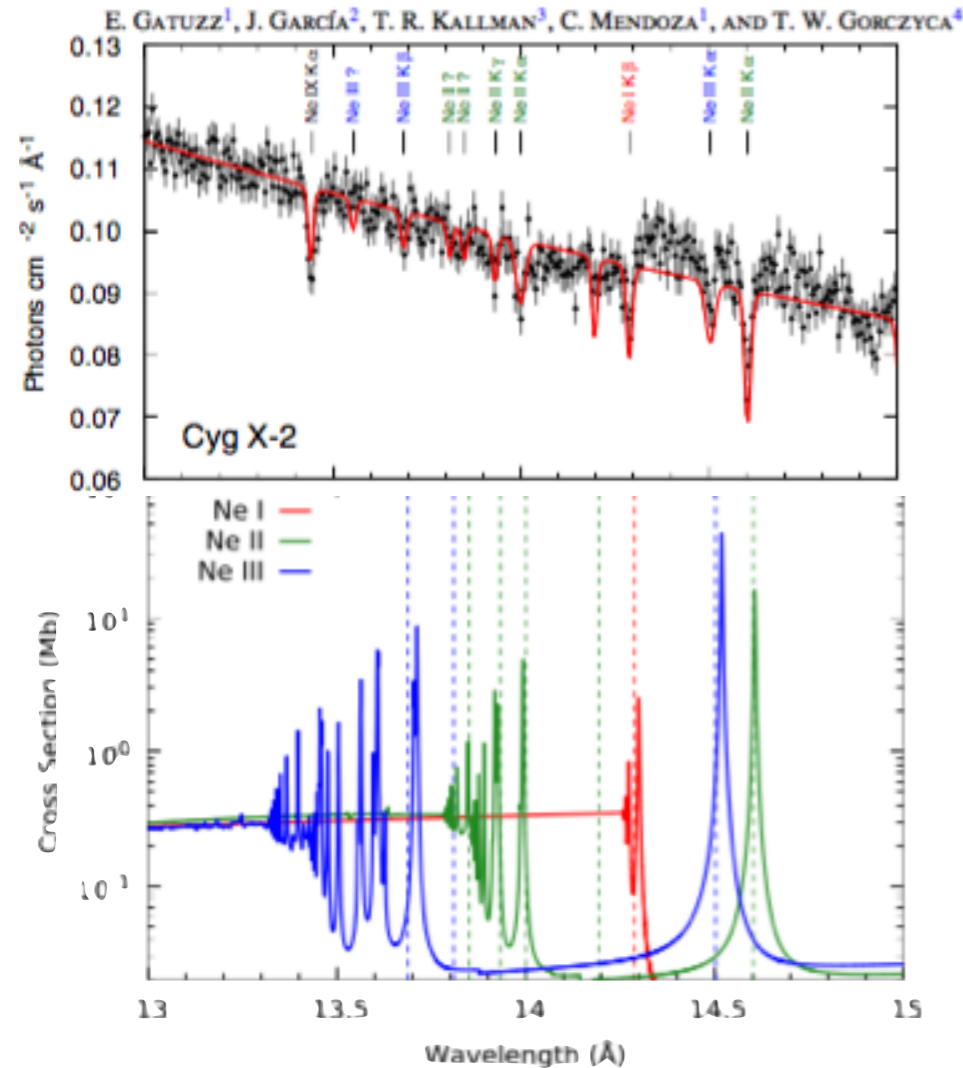
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THE ASTROPHYSICAL JOURNAL, 800:29 (13pp), 2015
 ISMabs: A COMPREHENSIVE X-RAY ABSORPTION MODEL FOR THE INTERSTELLAR MEDIUM

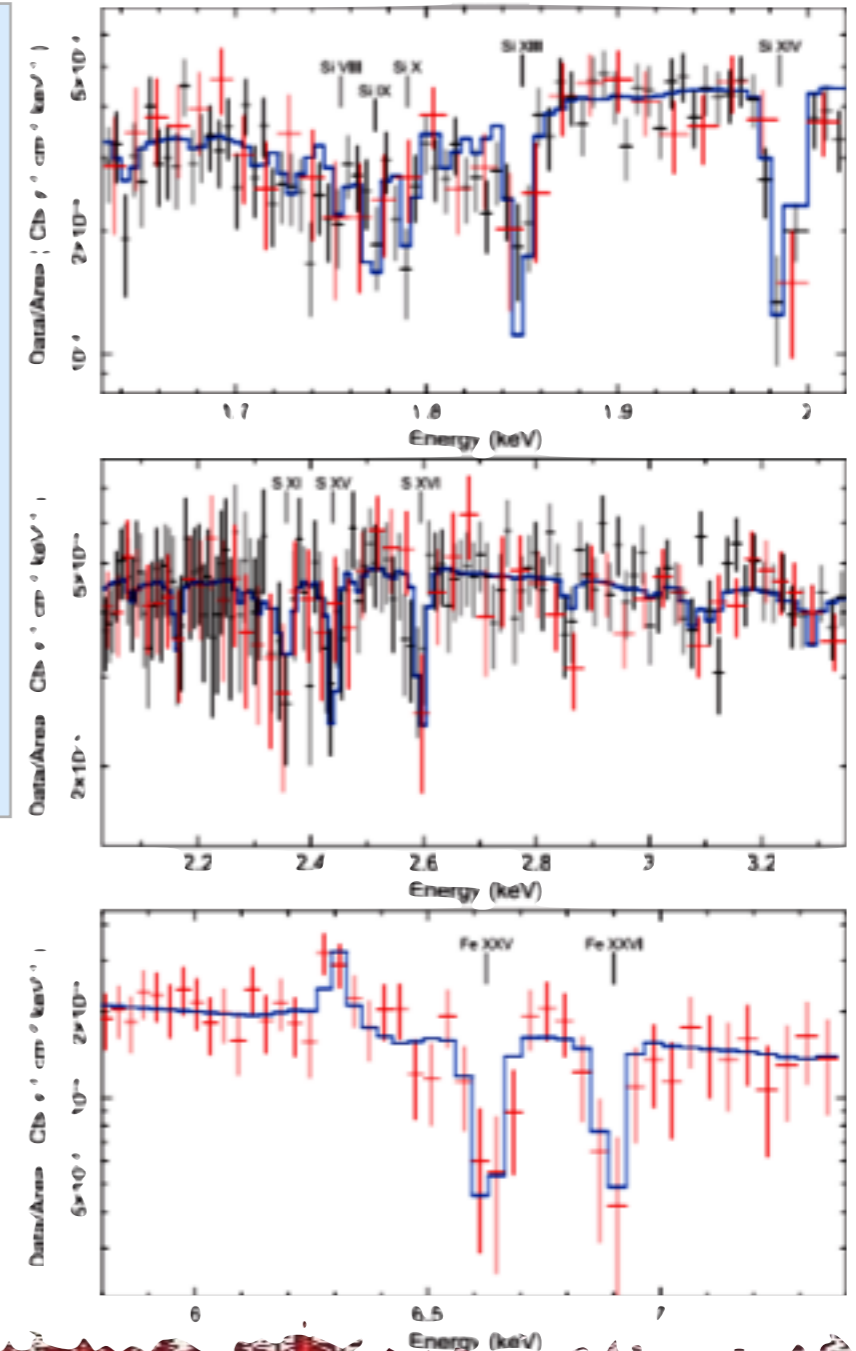
MNRAS 457, 510–524 (2016)

The ionized X-ray outflowing torus in ESO 323–G77: low-ionization clumps confined by homogeneous warm absorbers

M. Sanfrutos,^{1*} G. Miniutti,¹ Y. Krongold,² B. Agís-González¹
 and A. L. Longinotti^{2,3,4}



Seyfert II galaxy outflows and ionization states are revealed in absorption lines: 3 components of absorbing outflow at velocities up to 2000 km/s, with variability in the coolest plasma.



New X-ray photo-absorption model which includes up to doubly-ionized states of H, He, C, N, O, Ne, Mg, Si, S, Ar, Ca, & Fe.

