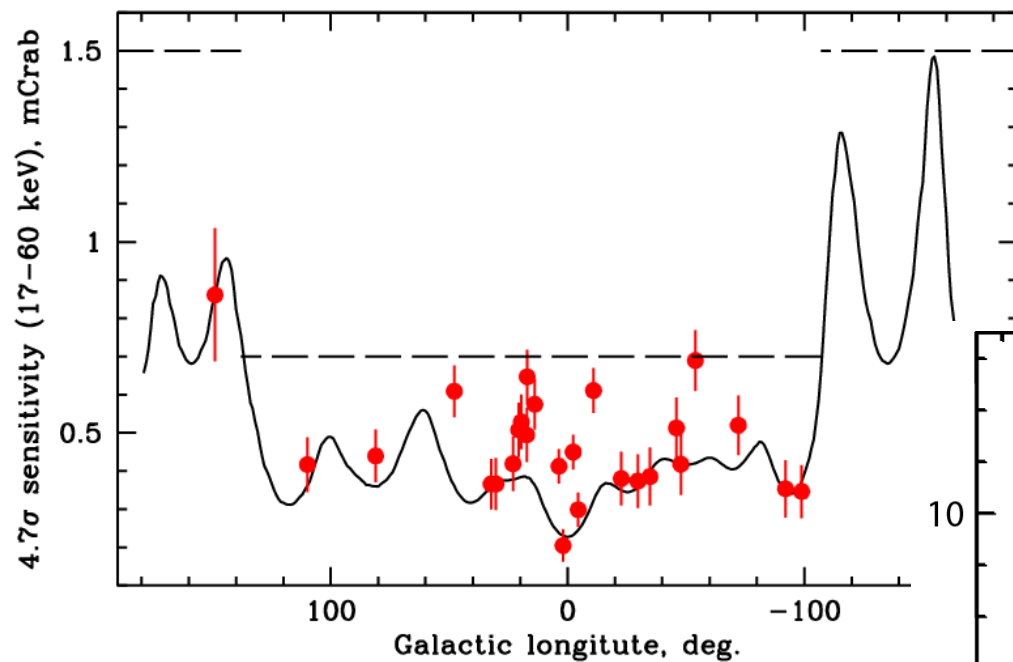
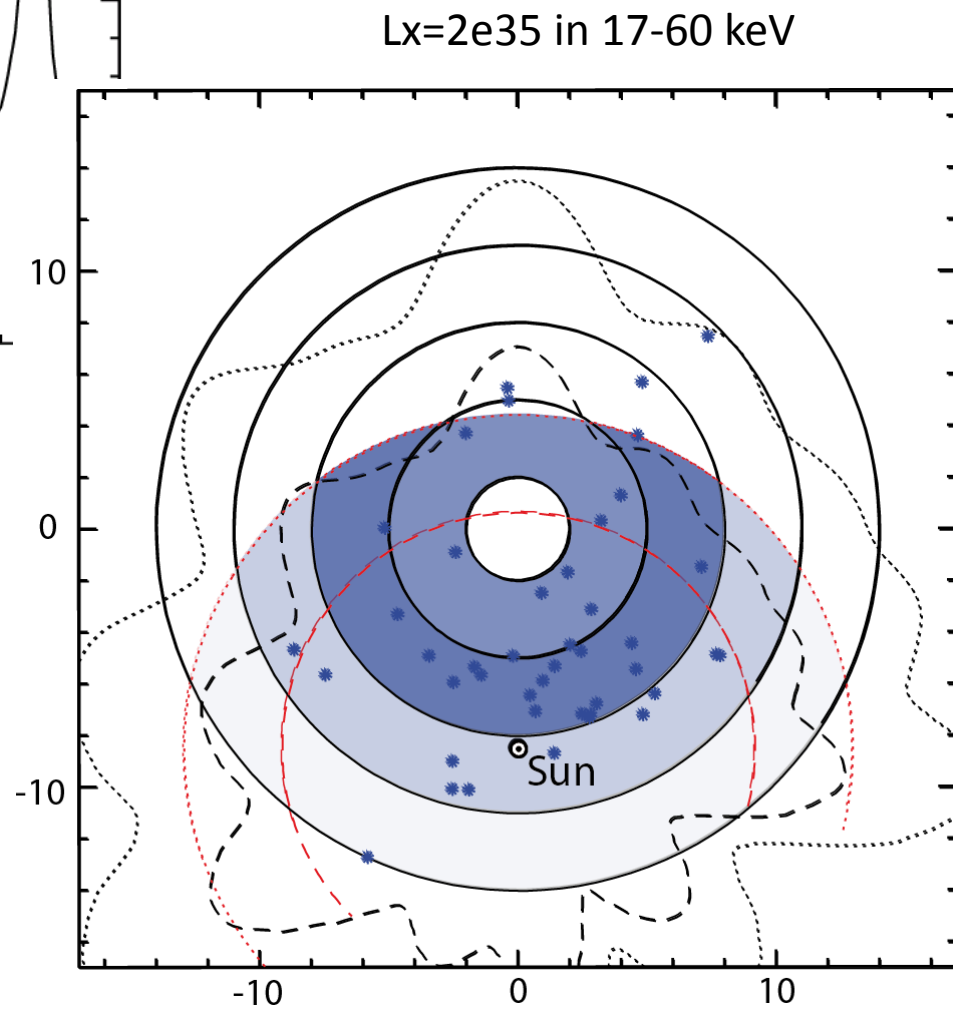


# INTEGRAL 9-years GP Survey



Krivonos et al. 2012  
Lutovinov et al. 2013



# The NuSTAR Legacy Program on IGRs: strategy

We selected 18 of these faint persistent sources to observe with NuSTAR:

IGR J04059+5416

IGR J08297-4250

IGR J10447-6027

IGR J14091-6108

IGR J16181-5407

IGR J17164-3803

IGR J17233-2837

IGR J17315-3221

IGR J17402-3656

AX J1753.5-2745

IGR J18088-2741

IGR J18134-1636

IGR J18293-1213

IGR J18381-0924

IGR J18497-0248

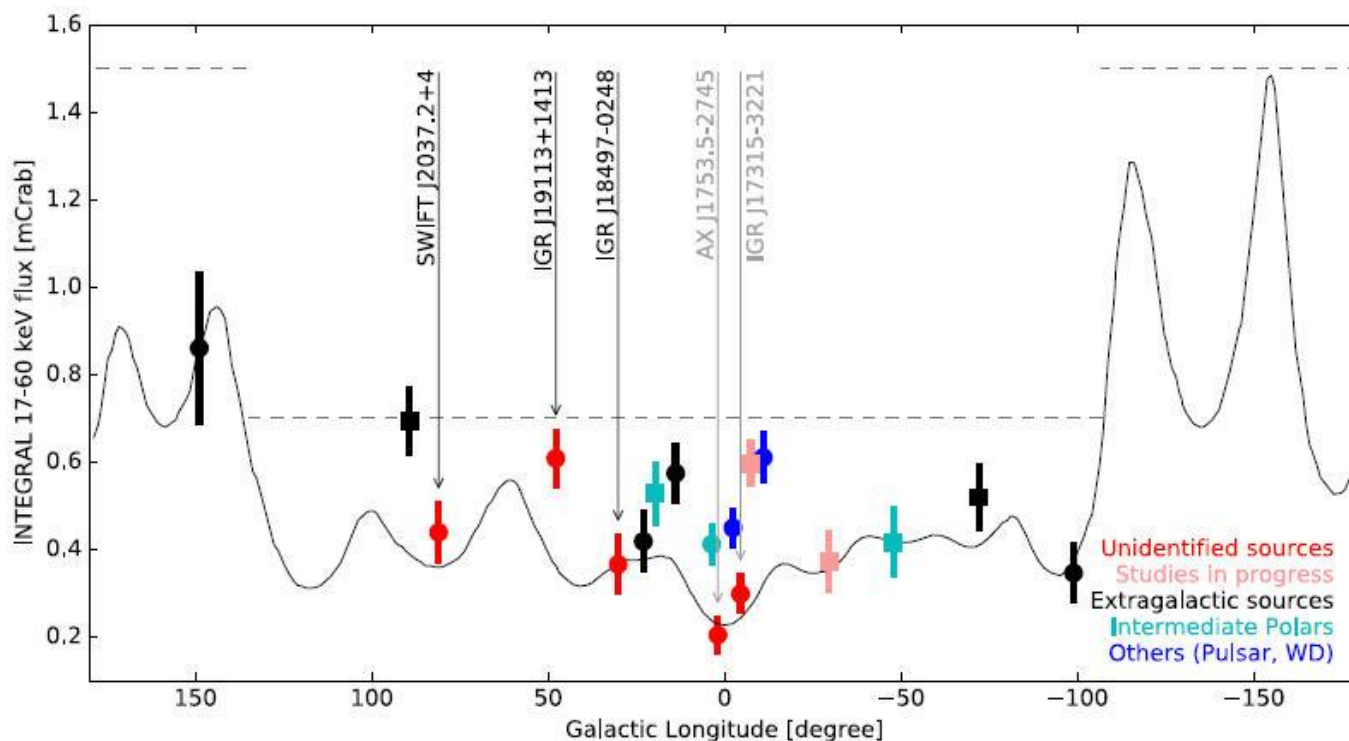
IGR J19113+1413

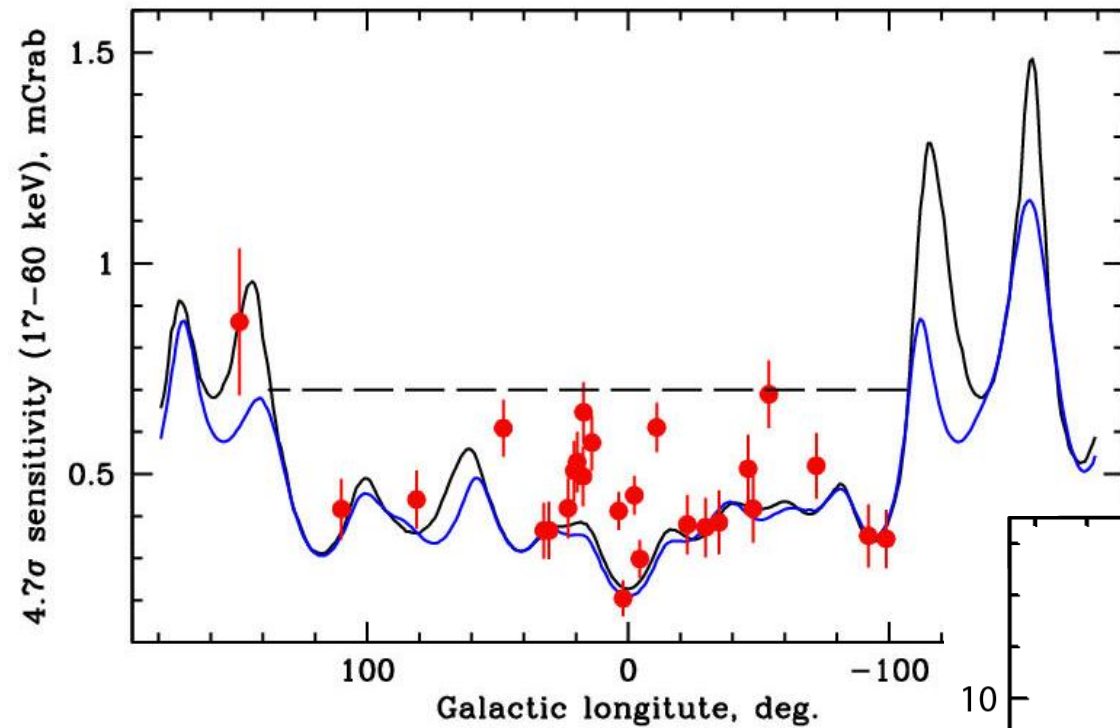
Swift J2037.2+4151

IGR J20569+4940

The plan is to observe targets with NuSTAR for 25–50 ks (plus 2 ks of simultaneous Swift data).

Total exposure time: 725 ks



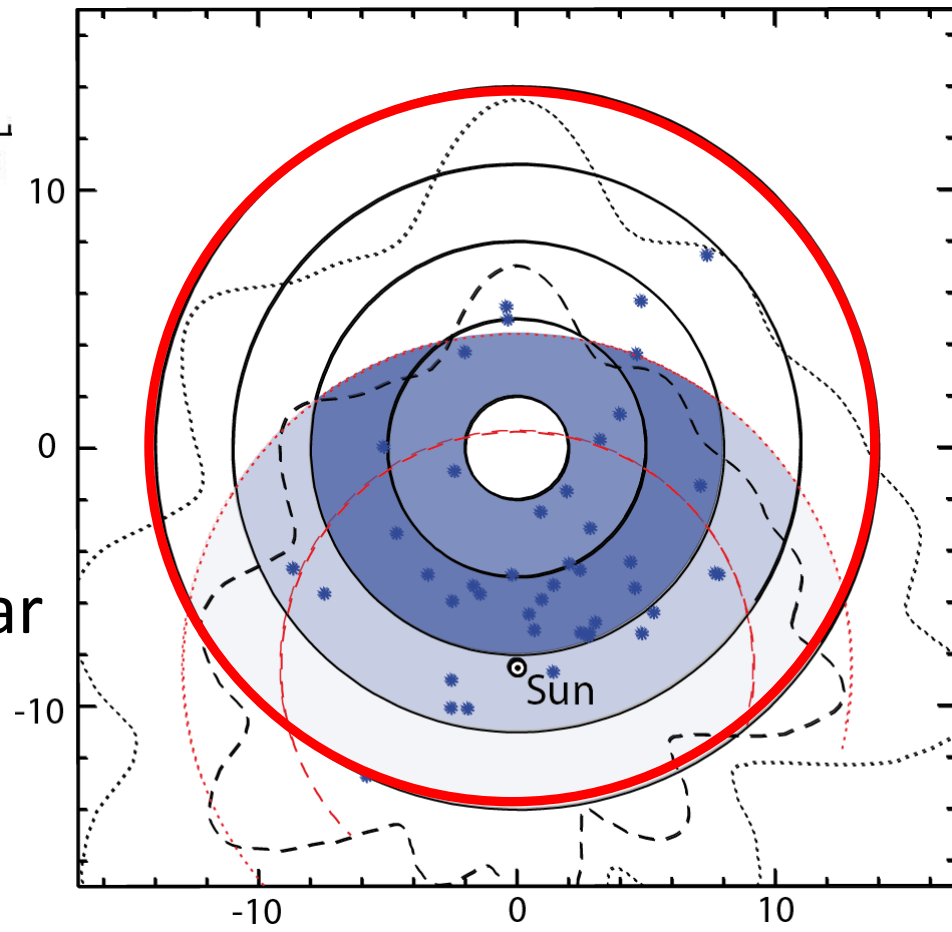


INTEGRAL Legacy

Look through the whole  
Galaxy at  $2 \times 10^{35}$  ( $1 \times 10^{35}??$ ) erg/s  
for point sources

Study diffuse emission, nuclear  
lines

Exceptional sources (TOO)



SAOImage ds9

File Edit View Frame Bin Zoom Scale Color Re

File ISGRI\_exposure\_pro\_eff.fits

Object

Value

WCS

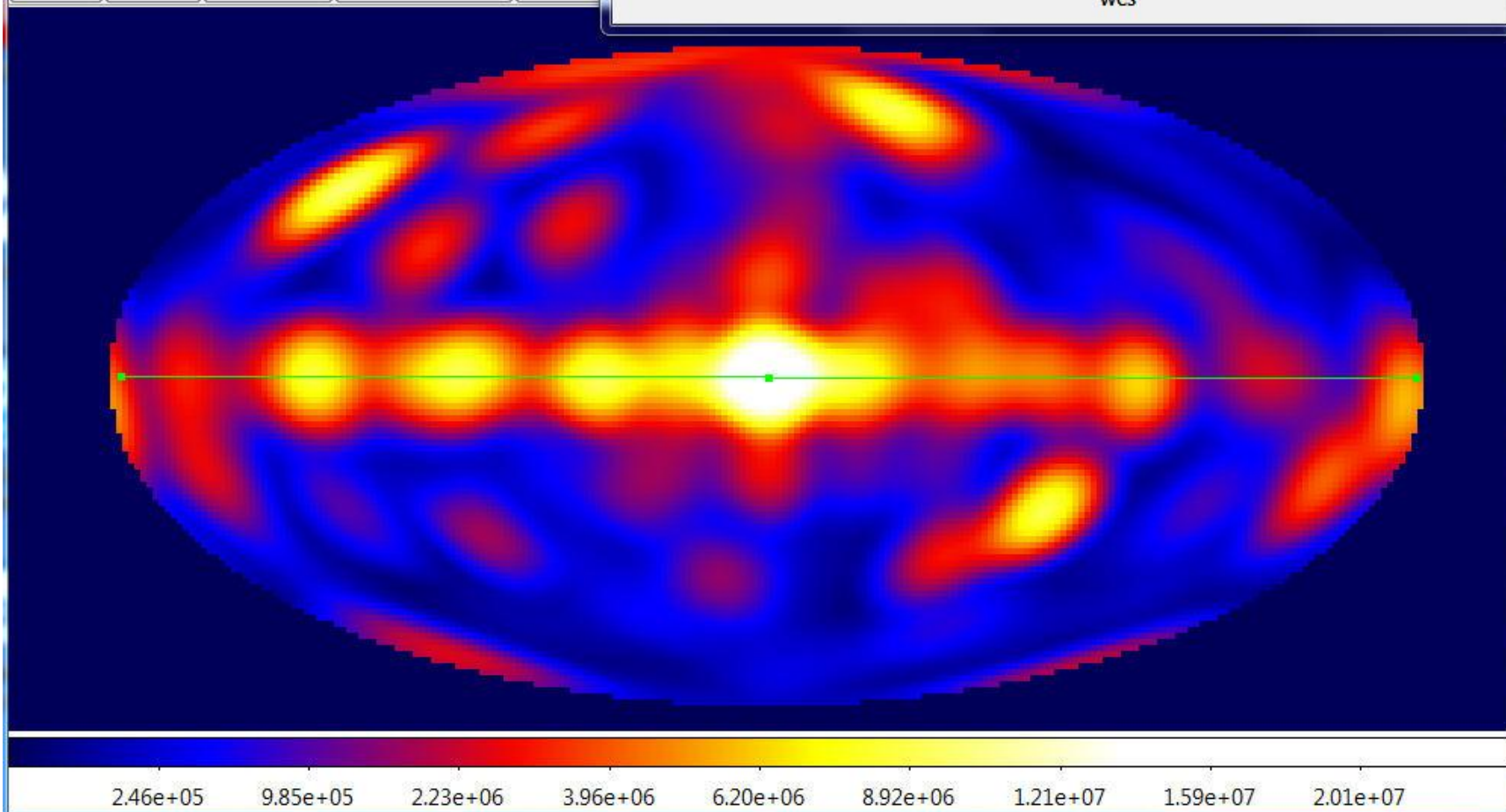
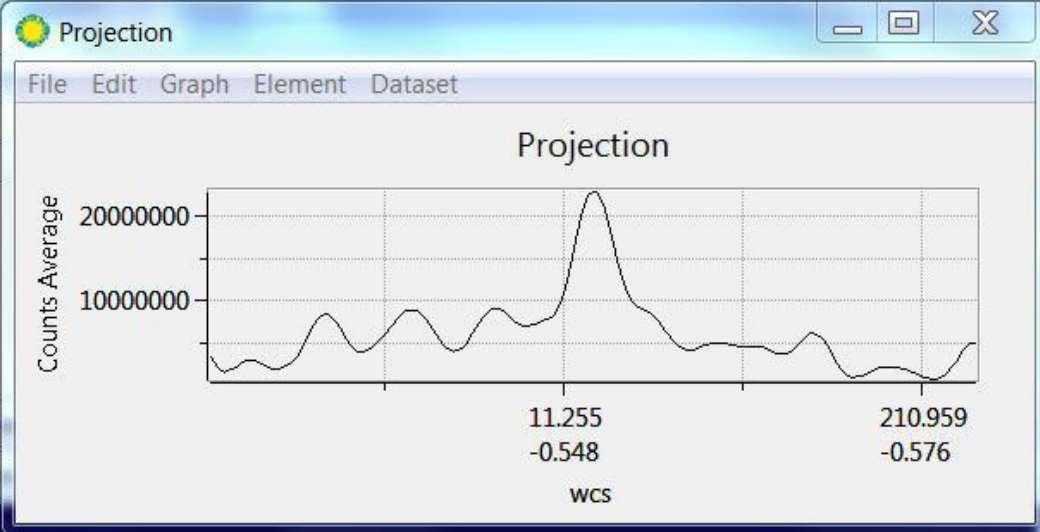
Physical X Y

Image X Y

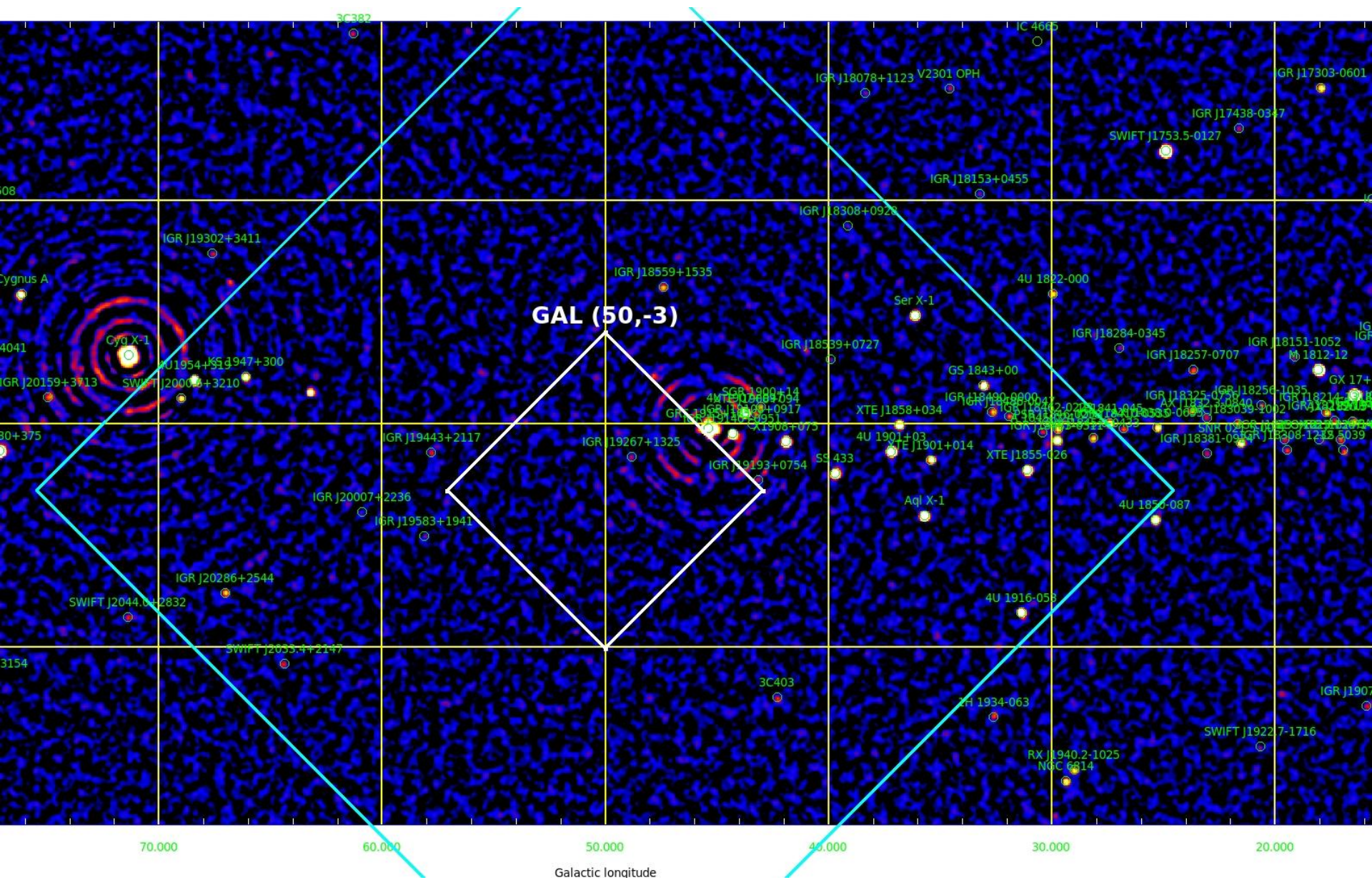
Frame 1 x 4.000 0.000

file edit view frame

- + to fit zoom 1/8 zoom

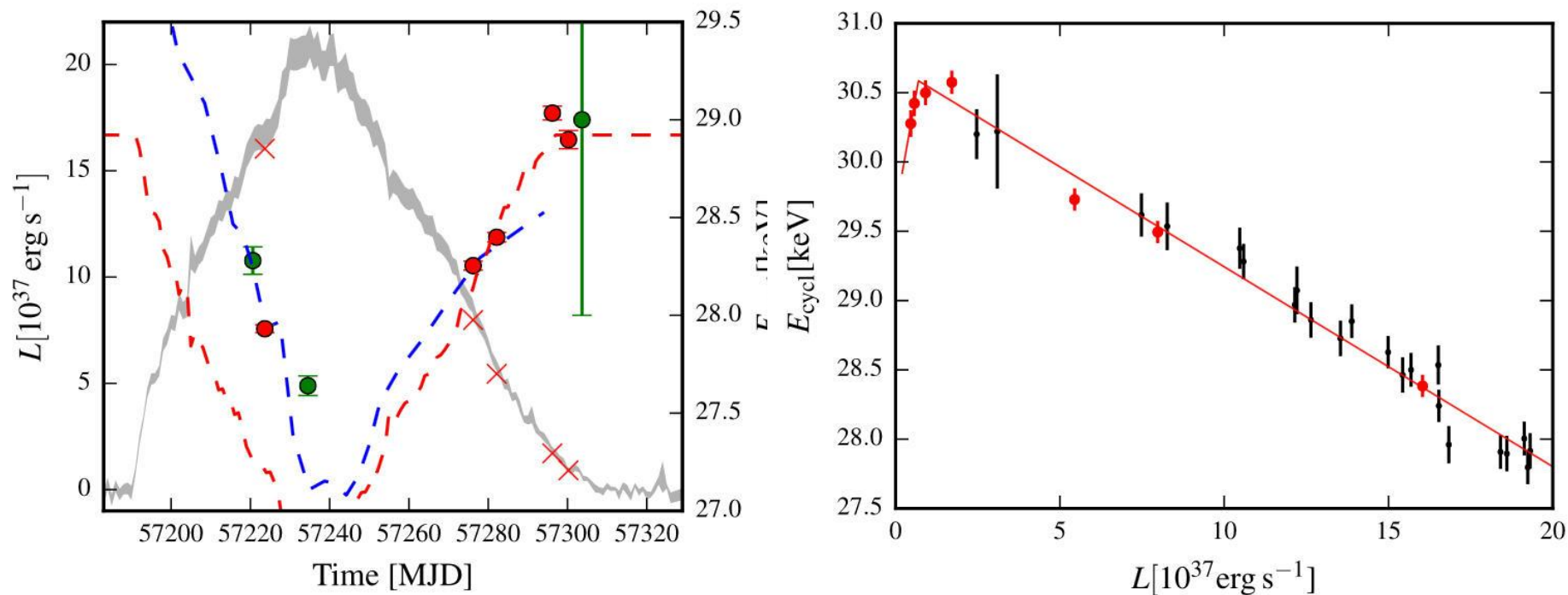






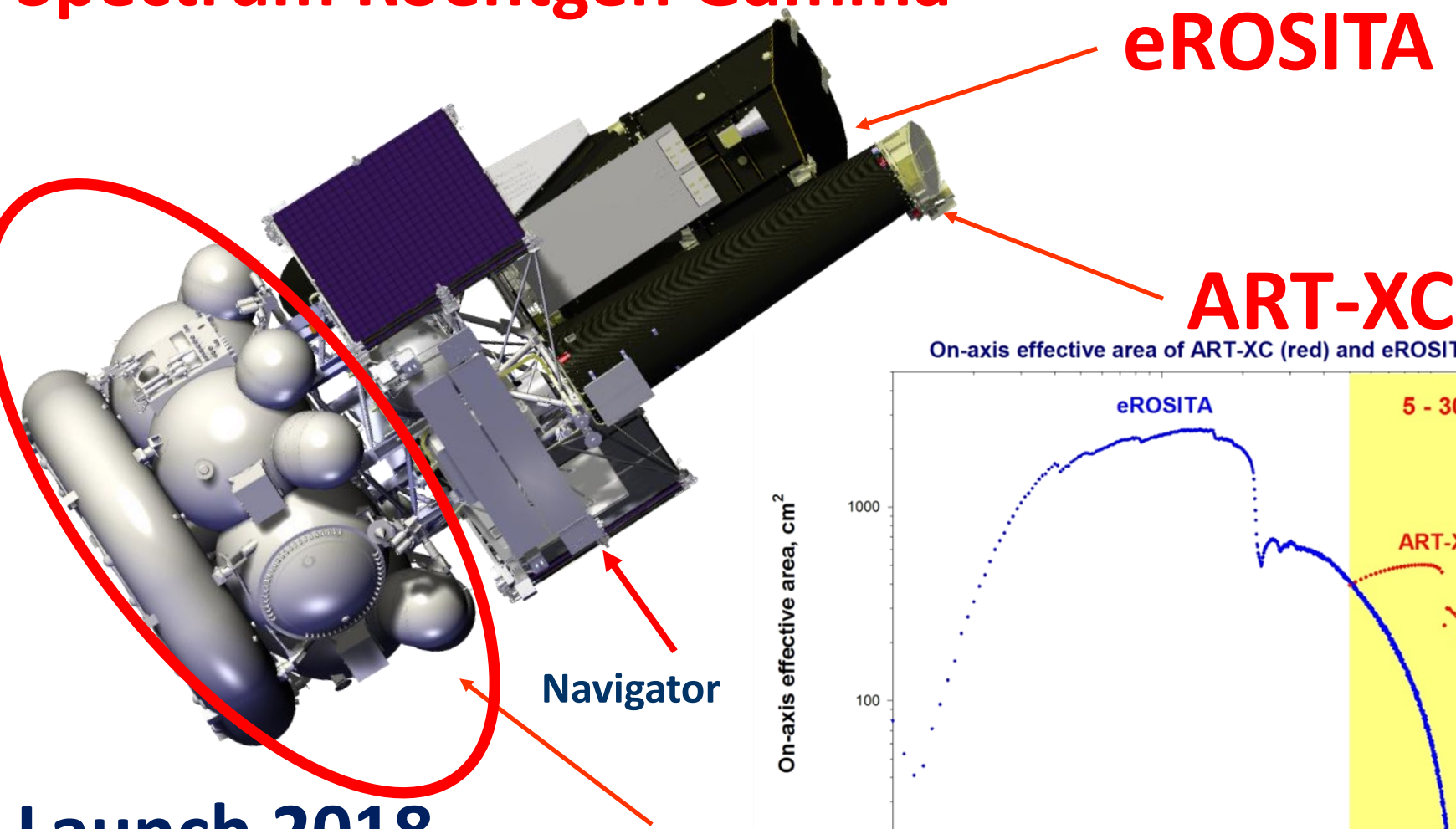
# Luminosity dependence of the cyclotron line and evidence for the accretion regime transition in V 0332+53

Victor Doroshenko,<sup>1</sup>★ Sergey S. Tsygankov,<sup>2</sup> Alexander A. Mushtukov,<sup>3,4</sup>  
Alexander A. Lutovinov,<sup>5,6</sup> Andrea Santangelo,<sup>1</sup> Valery F. Suleimanov<sup>1</sup>  
and Juri Poutanen<sup>2,7</sup>



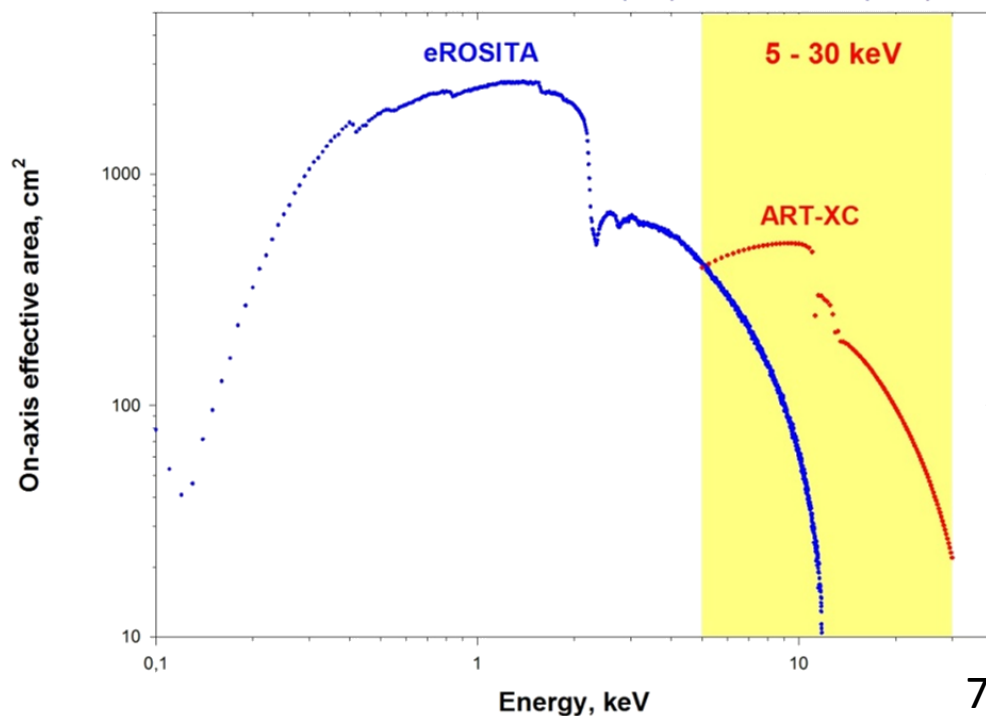


# Spectrum Roentgen Gamma



**Launch 2018**  
**L2 point**

On-axis effective area of ART-XC (red) and eROSITA (blue)

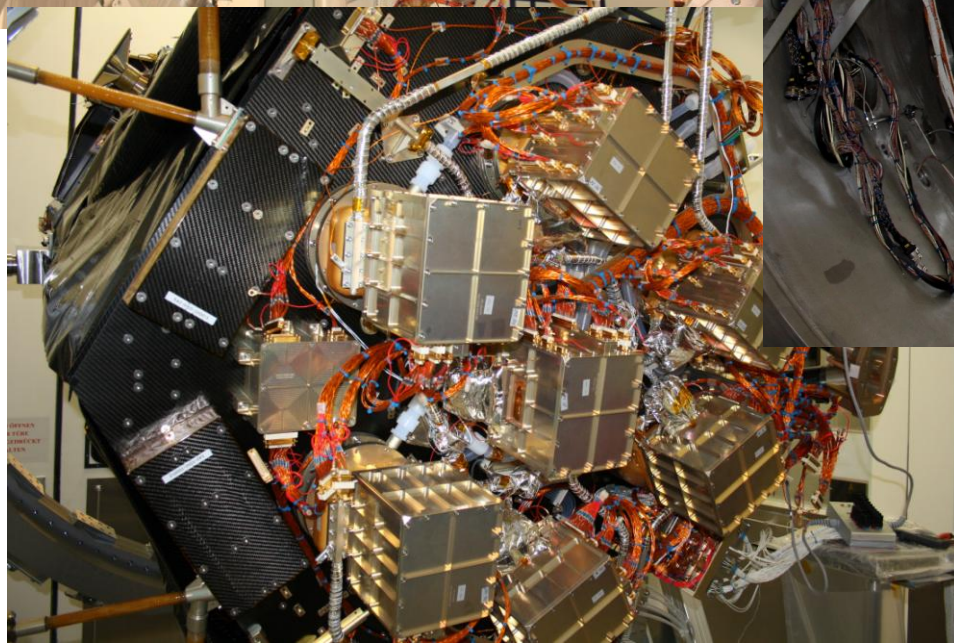
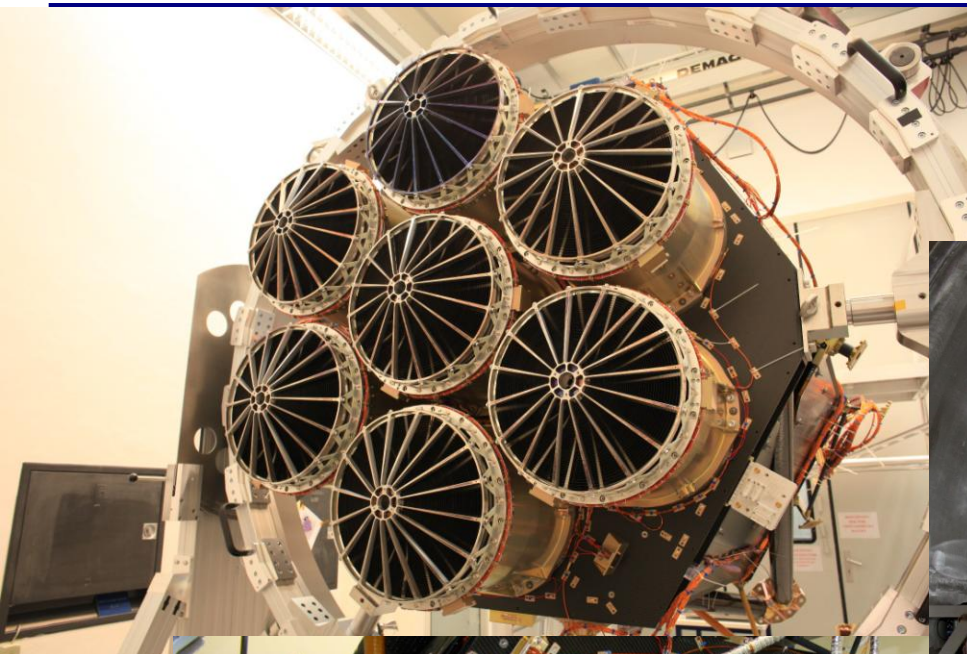




SRG



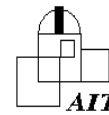
# e-Rosita







SRG

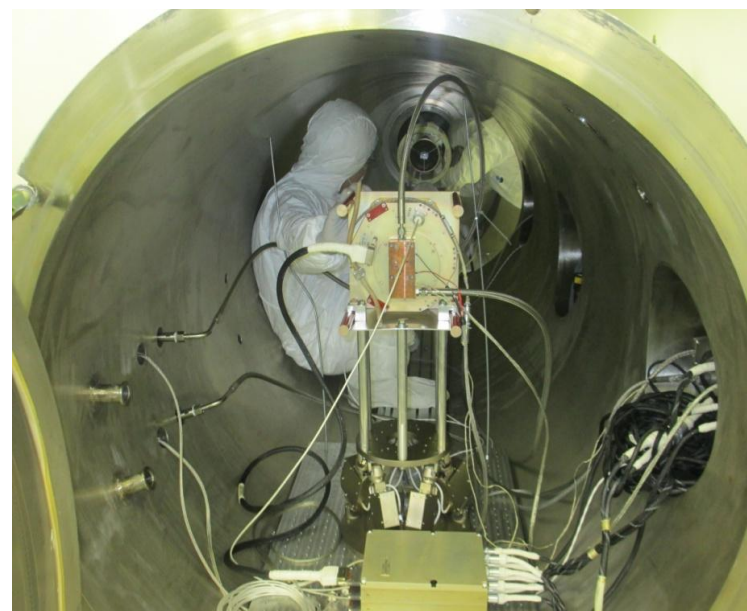
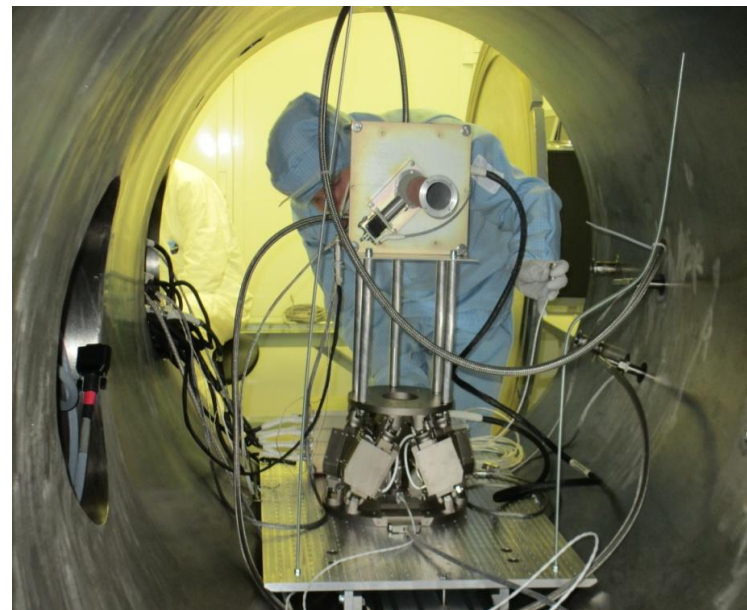
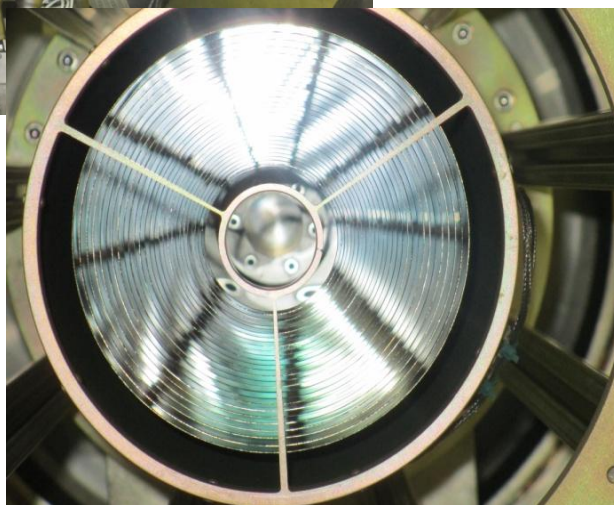


e-Rosita was delivered to the LA on 25/01/2017





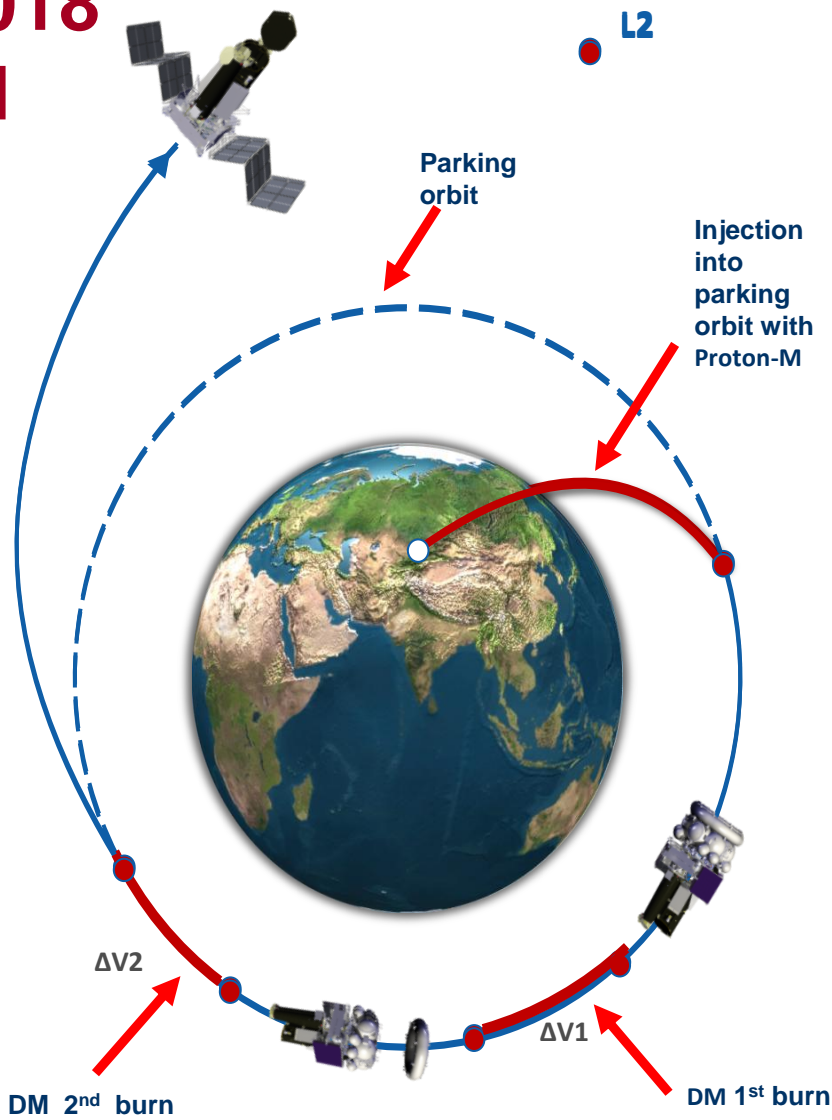
# ART-XC: FM MS+CdTe tests at IKI facilities







# March 2018 PROTON



Zenit-2SB LV with  
Electro-LII S/C

Zenit-2SB LV for  
SRG S/C

