

MULTI-MISSION STUDY MMS

Agreements during IACHEC 2016

Task 4, deadline the end of April 2017

Responsible people: Jukka (XMM), Larry (Chandra ACIS-I), Andy B. (Swift), Eric (Suzaku), Steve (ROSAT) each produce a list of suitable clusters / obs. IDs of suitable observations available in the public archive. At this point, no data processing required.

Suitable means (see the details in Jukka's talk in IACHEC 2016 meeting:
<https://wikis.mit.edu/confluence/display/iachec/MMS>)

1) offset < 3 arcmin

The offset btw the FOV center and the cluster center cannot be applied yet since we have not decided the cluster center coordinates. These will come from Chandra (Larry) later. At this point, approximate by an eye.

2) kT > 6 keV

To help with the selection, I listed in the following Table the clusters from the HIFLUGCS extended sample (Table 3 in Reiprich & Böhringer, 2002, 567, 716) with the literature temperature above 6 keV, and flux above 1/3 of A1795 value + some other nearby ones which I know to be hot. This Table may serve as a starting point. Please, suggest more hot clusters, widely observed with our instruments.

3) More than 1e5 counts in the 0.5-7.0 keV band (ROSAT > 40000 counts in the 0.5-2.0 keV band)

To help with the selection, I used the A1795 (z=0.062) data you gave me years back to estimate the *flare-free* exposure time needed for 1e5 counts in the central r=6 arcmin region:

ACIS-I : 10 ks

SWIFT/XRT: 40 ks

Suzaku XIS0 and XIS3: 20 ks

Suzaku XIS1: 15 ks

ROSAT/PSPC: 15 ks

You may roughly estimate the required exposure for a given cluster by scaling its flux (f_x , column 9) to that of A1795 (6.3) in the Table 3 of Reiprich+02. Another useful table is Ikebe et al., 2002, 383, 773, Table 1. Mark the Obs ID of the suitable observation with the highest flare-free exposure (estimate by an eye from the hopefully ready-made light curve) to the following Table. If there is no long enough observation, mark the Obs ID of the one with the highest estimated total counts (XXXXX) to the Table, with the tag "XXXXX counts" so that I can spot the difference. We can decide later if it makes sense to decrease the count limit for the sake of the sample size.

Observation IDs of suitable observations

Cluster	XMM	Chandra	Swift	Suzaku	ROSAT
A85					
A119					
A399					
A401					
A478					
A644					
A754					
A1413					
A1650					
A1651					
A1795					
A1835					
A2029					
A2142					
A2204					
A2244					
A2255					
A2256					
A2319					
A3112					
A3266					
A3391					
A3558					
A3571					
A3667					
A3695					
A3827					

Coma					
Cygnus A					
PKS 0745					
Ophiuchus					
Triangulum					
3C129					
Zw Cl 1215					

Task 5, deadline the end of June 2017

TBD

- extract spectra from circular 6 arcmin region, centered on Chandra X-ray peak coordinates (Larry!)
- produce arf, rmf and blank sky background
- check whether bkg < 10% of the source at all channels in the 0.5-7.0 keV band (0.5-2.0 keV for PSPC)