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Title: Description of the HXD calibration files for the v.1.2 data

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Author: Y. Terada

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## Description of the HXD calibration files for the v.1.2 data

Yukikatsu Terada (RIKEN) and the HXD team

e-mail:terada@riken.jp

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## 1 Introduction

This document describes the HXD calibration files released in July 2006, which are used in the v.1.2 pipe-line processing and also in Guest Observers' analysis of the v.1.2 data.

Description of the calibration files released previously is found at

<http://www.astro.isas.jaxa.jp/suzaku/caldb/doc>

or

<http://suzaku.gsfc.nasa.gov/docs/heasarc/caldb/suzaku/docs>

## 2 Energy Scale File

### 2.1 Files

ae\_hxd\_pinlin\_20060724.fits

ae\_hxd\_gsolin\_20051209.fits

### 2.2 Previous Files

ae\_hxd\_pinlin\_20051011.fits

ae\_hxd\_gsolin\_20051125.fits

### 2.3 Reason for Updates

Improvement of the PIN and GSO calibration.

## 3 Gain History File

### 3.1 Files

ae\_hxd\_gsoghf\_20060621.fits

### 3.2 Previous Files

ae\_hxd\_gsoghf\_20051126.fits

### 3.3 Reason for Updates

Improvement of the GSO calibration and a longer coverage of the observation period.

## 4 Grade Determination File

### 4.1 Files

ae\_hxd\_pinthr\_20060727.fits

ae\_hxd\_gsopsd\_20060620.fits

## 4.2 Previous Files

`ae_hxd_pinthr_20050916.fits`  
`ae_hxd_gsopsd_20051116.fits`

## 4.3 Reason for Updates

Improvement of the PIN and GSO calibration.

# 5 Response Matrices

## 5.1 Files

`ae_hxd_gsohxn timer_20060321.rsp`  
`ae_hxd_gsoxin timer_20060321.rsp`  
`ae_hxd_pinhxn timer_20060814.rsp`  
`ae_hxd_pinxin timer_20060814.rsp`

## 5.2 Previous Files

`ae_hxd_gsohxn timer_20051117.rsp`  
`ae_hxd_gsoxin timer_20051117.rsp`  
`ae_hxd_pinhxn timer_20051104.rsp`  
`ae_hxd_pinxin timer_20051104.rsp`

## 5.3 Reason for Updates

Improvement of the PIN and GSO calibration. HXD/PIN response is currently guaranteed in the 12-40 keV range. These PIN responses are consistent with the v.1.2.2.3 data which are processed with `ae_hxd_pinlin_20060724.fits` and `ae_hxd_pinthr_20060727.fits`.

# 6 ARF database file

## 6.1 Files

`ae_hxd_teldef_20060516.fits`

## 6.2 Previous Files

`ae_hxd_teldef_20050908.fits`

## 6.3 Reason for Updates

New GSO alignment measurement is reflected.

# 7 Notes for analysis

To determine the gain of the GSO data precisely, please check the CALDB area, and get the latest gain history file, `ae_hxd_gsoghf_XXXXXXXXX.fits` which includes your observation date, and reprocess your data. This is a strong recommendation in analysing GSO data.