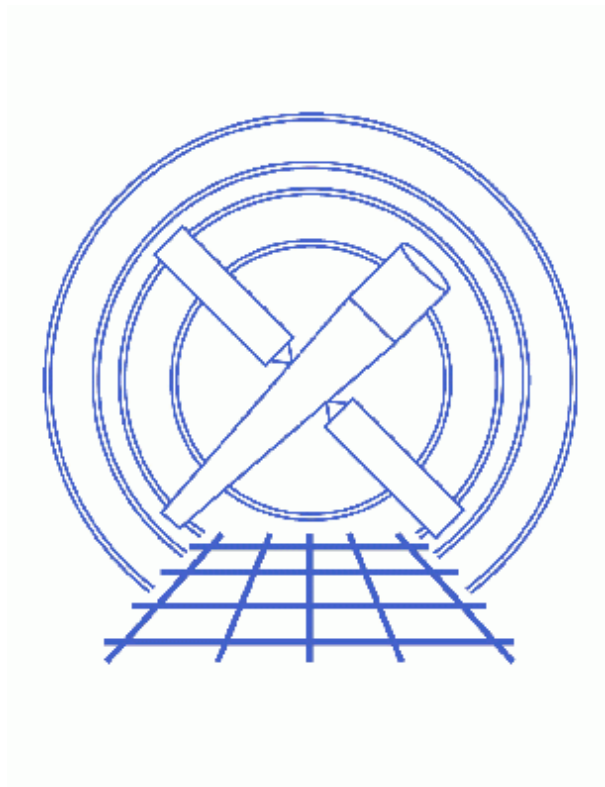


# Updating dmgroup Syntax for CIAO 3



## ***CIAO 3.4 Science Threads***

# Table of Contents

- *Parameter Descriptions*
- *Updating the Syntax for CIAO 3*
  - ◆ Example 1: Using grouptype=NUM\_CTS
  - ◆ Example 2: Using grouptype=BIN
- *History*

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# Updating dmgroup Syntax for CIAO 3

*CIAO 3.4 Science Threads*

## Overview

*Last Update:* 1 Dec 2006 – reviewed for CIAO 3.4: no changes

### *Synopsis:*

In CIAO 3.0 the `dmgroup` parameters `bincolumn` and `column` have been removed and two new parameters – `xcolumn` and `ycolumn` – added, as discussed in the [Parameter Descriptions](#) section below. ***Any scripts that use `dmgroup` will not work in CIAO 3 until they are converted to the new syntax.*** This document describes how the new parameters are used and gives some examples of converting CIAO 2.3 syntax to work in CIAO 3.

*Proceed to the [HTML](#) or hardcopy (PDF: [A4](#) | [letter](#)) version of the thread.*

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## Parameter Descriptions

It is important to note that there is no direct correlation between the old and new parameters, i.e. this is not a case of `bincolumn` changing to `xcolumn` and `column` changing to `ycolumn`. The new parameters function differently than the old ones:

- `ycolumn` is the column that contains the data to be grouped (i.e. counts in a spectrum). It must always be specified.
- `xcolumn` is the column over which the grouping scheme is defined. It is only used when the `groupype` parameter is set to `BIN`, `NUM_BINS`, `BIN_FILE`, `BIN_WIDTH`, `MIN_SLOPE`, or `MAX_SLOPE`. The row number is used. For these options, the row number is used if `xcolumn` is not specified. If the grouping option is set to `BIN` then `xcolumn` must contain monotonically increasing data.

For the remaining grouping options (`SNR`, `NUM_CTS`, `ADAPTIVE`, `ADAPTIVE_SNR`, and `NONE`), the parameter `xcolumn` is not needed.

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## Updating the Syntax for CIAO 3

Here are a few examples of converting a CIAO 2.3 `dmgroup` command to CIAO 3 syntax. There are more examples of using this tool in the [help file](#).

## Example 1: Using grouptype=NUM\_CTS

This example groups the input spectrum such that there is a minimum of 15 counts in each group. Since the NUM\_CTS grouptype is being used, it is not necessary to supply an xcolumn.

CIAO 2.3:

```
unix% dmgroup 3c273.pi 3c273_ciao23_grp.pi binspec="" \  
  tabspec="" grouptype=NUM_CTS grouptypeval=15 column=counts \  
  bincolumn="" tabcolumn="" clobber=no verbose=0
```

CIAO 3:

```
unix% dmgroup 3c273.pi 3c273_ciao3_grp.pi binspec="" \  
  tabspec="" grouptype=NUM_CTS grouptypeval=15 ycolumn=counts \  
  xcolumn="" tabcolumn="" clobber=no verbose=0
```

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## Example 2: Using grouptype=BIN

In order to use the BIN grouptype option, it is necessary to supply both xcolumn and ycolumn. The grouping begins where the PI column has a value of 1, creating a new group whenever it increases by 10. The grouping stops when PI reaches a value of 1024.

CIAO 2.3:

```
unix% dmgroup spectrum.pi spectrum_ciao23_grp.pi binspec="1:1024:10" \  
  tabspec="" grouptype=BIN grouptypeval="" column=counts \  
  bincolumn="pi" tabcolumn="" clobber=no verbose=0
```

CIAO 3:

```
unix% dmgroup spectrum.pi spectrum_ciao3_grp.pi binspec="1:1024:10" \  
  tabspec="" grouptype=BIN grouptypeval="" ycolumn=counts \  
  xcolumn="pi" tabcolumn="" clobber=no verbose=0
```

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## History

03 Jan 2005 reviewed for CIAO 3.2: no changes

06 Dec 2005 reviewed for CIAO 3.3: no changes

01 Dec 2006 reviewed for CIAO 3.4: no changes

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URL: [http://cxc.harvard.edu/ciao/threads/dmgroup\\_syntax/](http://cxc.harvard.edu/ciao/threads/dmgroup_syntax/)

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