Chandra X-ray Center

URL: http://cxc.harvard.edu/ciao3.4/bugs/wavdetect.html
Last modified: 10 October 2007

# Bugs: wavdetect

## Bugs

1. ***There cannot be two sets of brackets ("[ ]") in the input file specification.***

   An example of an unacceptable syntax is

   ```
   unix% wavdetect "evt2.fits[energy=500:8000][bin X=4275:4925:1,Y=3775:4425:1]"
   ```

   The tool will exit with an error:

   ```
   grep: RE error 49: [ ] imbalance.
   parammatch : can't find parameter X in reference list
   parameter error?
   ```

   **Workaround:**

   Include the parameter name before the file specfication:

   ```
   unix% wavdetect infile="evt2.fits[energy=500:8000][bin X=4275:4925:1,Y=3775:4425:1]"
   ```

2. ***Autonaming of ASCII region files uses the `.fits` extension instead of `.reg` as would be expected.***

   In general, autonaming only works for simple cases.

3. ***Zero−length radius in source region*** *(23 Mar 2007)*

   If the source region determined by `wavdetect` is only one pixel wide, then the axis in that direction is equal to 0. If the entire region is one pixel square, then both the semi−major and minor axes are (0,0). A region with a zero−length `yradius` looks like this in the output ASCII region file:

   ```
   ellipse(4164.500000,3885.033333,5.986652,0.000000,90.000000)
   ```

   If the source list is used as stack input to `dmextract` − e.g. to create radial profiles − these zero−length regions will result in NaN values in the output file, usually because the source area is zero.

4. ***Comma−separated values for scales parameter*** *(16 May 2007)*

   The values given for the `scales` parameter must be space−separated, e.g "`scales='1.0 1.414 2.0 2.828 4.0 5.656 8 11.3'`". If commas are used instead, the tool only recognizes the first scale and disregards the rest.

5. ***Wavdetect deletes the input file*** NEW *(10 Oct 2007)*

   If the input filename does not contain a "." (e.g. ".fits"), the tool deletes the input file and exits with an error.

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