rgsevconvert

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Abstract

Converts an old-style RGS combined event list file to the current format.

1 Instruments/Modes

Instrument	Mode
RGS	SPECTROSCOPY

2 Use

interactive analysis	yes

3 Description

This task upgrades an old-style RGS combined event list for minimal compliance with current specifications for the filtered, combined event list. Minimal compliance means that it meets the requirements of **rgsregions**, **rgsspectrum** and **rgsrmfgen**. The conversion is performed in-place and the input file is destructively changed in the sense that any obsolete constructs are converted and removed. If the input file possesses none of these constructs it is left unchanged. Consequently, this task may be invoked repeatedly on the same file, or on a combined event list that already meets current specifications, without concern for damage or error.

4 Parameters

This section documents the parameters recognized by this task (if any).

Parameter	Mand	Type	Default	Constraints
set	yes	dataset	filtered.ds	

A filtered, combined RGS event list.

5 Errors

This section documents warnings and errors generated by this task (if any). Note that warnings and errors can also be generated in the SAS infrastructure libraries, in which case they would not be documented here. Refer to the index of all errors and warnings available in the HTML version of the SAS documentation.

6 Input Files

- `set`
  The input dataset must contain a table named `EVENTS` with columns named `PI`, `BETA_CHANNEL` and `XDSP_CHANNEL`. It is expected that this will be the filtered, combined event list produced by SAS version 5.0, but files lacking obsolete constructs are accepted as well and left unchanged.

7 Output Files

- `set`
  The input dataset is modified in place. Obsolete constructs are removed and replaced as faithfully as possible with the most current equivalent.

8 Algorithm

```
========== convert the EVENTS table ==========

IF ( exists attribute PI_REF )
  add WCS attributes to the PI column:
    TCRPX = 0
    TCRVL = PI_REF
    TCDLT = PI_WID
  delete attributes PI_REF and PI_WID

IF ( exists attribute BETA_REF )
  add WCS attributes to the BETA_CHANNEL column:
    TCRPX = 0
    TCRVL = BETA_REF
    TCDLT = BETA_WID
  delete attributes BETA_REF and BETA_WID

IF ( exists attribute XDSP_REF )
  add WCS attributes to the XDSP_CHANNEL column:
    TCRPX = 0
    TCRVL = XDSP_REF
    TCDLT = XDSP_WID
  delete attributes XDSP_REF and XDSP_WID

========== convert the EXPMn_0c images ==========

FOR EACH ccd
  FOR EACH node
    IF ( exists block EXPM<node>_0<ccd> )
      rename block to EXPMAP<node><ccd>
      add WCS attributes:
        CRPIX1 = 1
        CRVAL1 = BETA_REF
        CDELT1 = BETA_WID
        CRPIX2 = 1
        CRVAL2 = XDSP_REF
        CDELT2 = XDSP_WID
      delete attributes BETA_REF, BETA_WID, XDSP_REF, XDSP_WID
```

9 Comments

References