



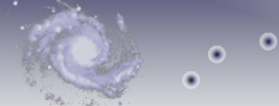
data formats in online DAQ, analysis and MC for the GERDA experiment

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bmb+f - Förderschwerpunkt

Astroteilchenphysik

Großgeräte der physikalischen
Grundlagenforschung

Data structure

MC structure defined largely by online data structure

MC simulations of detector responses

- 1) individual Ge detector
- 2) combined Ge array
- 3) whole GERDA setup + rocks

→ connection to data base on configuration
and running parameters

data base and storage of 'libraries' selected responses/MC data on

- 1) true
- 2) cosmics + induced
- 3) radioactivity: neutrons, α & γ

→ ?freeze kernels and versions of MaGe/GEANT & ROOT?

online structure proposed



```
int writetagfile(int tag, int sizeinbytes, void *data)
```

```
{
  struct { int tag; int size; } header;
  if(tagfile_fp==0) return 2;
  header.tag=tag;
  header.size=sizeinbytes;
  tagfile_size+=sizeinbytes+8;
  fwrite(&header,sizeof(header),1,tagfile_fp);
  if(sizeinbytes>0) fwrite(data,sizeinbytes,1,tagfile_fp);
  // printf("tag %d size %d total %12g\n",tag,sizeinbytes,tagfile_size);
  return 1;
}
```

```
// writetagfile -----
```

```
// writetagfile id for histograms
```

```
// writetagfile -----
```

```
writetagfile(1,sizeof(int),&recordtype); // type of record 100=histogramms
```

```
writetagfile(2,256,title); // title
```

```
writetagfile(3,2*sizeof(int),unixtime); // unix record time sec usec
```

```
writetagfile(10001,sizeof(int),&ge_adcs); // ge adcs histograms
```

```
writetagfile(10002,sizeof(int),&ge_filterhistsize); // ge adcs histogram size
```

```
writetagfile(20000+i,sizeof(float)*ge_filterhistsize,data); // ge histogramms
```

```
writetagfile(21000+i,sizeof(int),&gespa[i]->filteredevents); // ge filtered events
```

```
writetagfile(22000+i,sizeof(int),&gespa[i]->baselinecorrected); // ge bl corr ever
```

```
writetagfile(23000+i,sizeof(int),&gespa[i]->pileuprejected); // ge pile-up events
```

```
writetagfile(-1,0,0); // end of histogram record
```

Thomas Kihm

C code

administration



raw data (list mode, traces)
intermediate, (blinded?) data
calibration data (traces, spectra)
MC data (....., libraries)
physics data (i.e. published spectra ??)

log-book data
slow control

bureaucracy: administration, quality control,
... of storage, backup and analysis

to be prepared now for the definition of the analysis
administration; **decided at the next GERDA meeting?**