

# Implementation of accessing time walk functions in CgemBoss

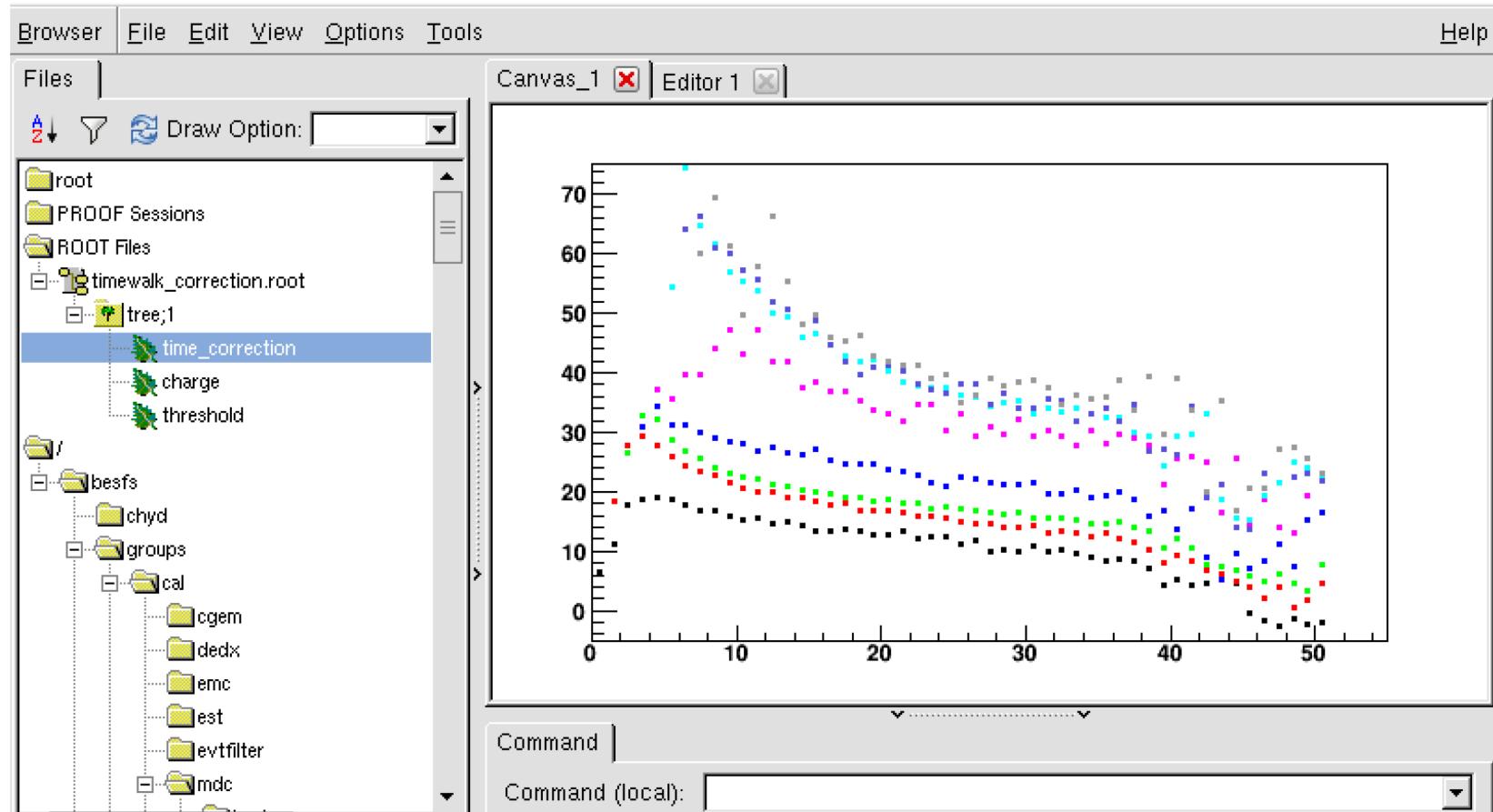
Linghui Wu

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# Time walk functions

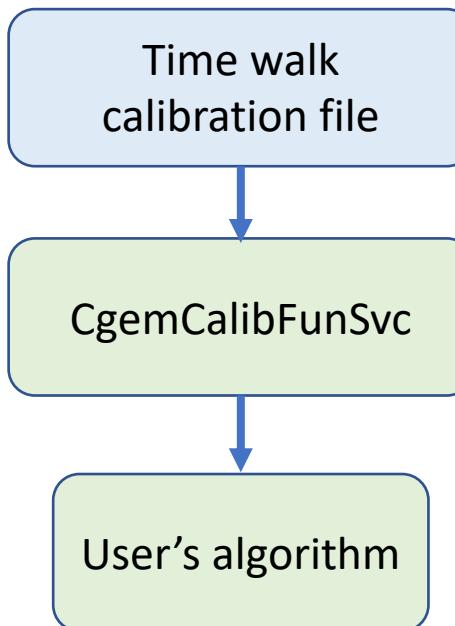
Provided by Riccardo

/bes3fs/cgemCosmic/data/timewalk\_correction.root



# Implementation of accessing time walk functions

- CgemCalibFunSvc has been updated to access time walk correction functions  
New version in CVS: **CgemCalibFunSvc-00-00-04**
- It will be released in CgemBoss6.6.5.f



Current directory: [BESIII] / [CgemBossCvs](#) / [Cgem](#) / [CgemCalibFunSvc](#)

Current tag: **CgemCalibFunSvc-00-00-04**

Files shown: **1**

File	Rev.	Age
<a href="#">CgemCalibFunSvc/</a>		
<a href="#">cmt/</a>		
<a href="#">dat/</a>		
<a href="#">share/</a>		
<a href="#">src/</a>		
<a href="#">ChangeLog</a>	<a href="#">1.4</a>	4 minutes

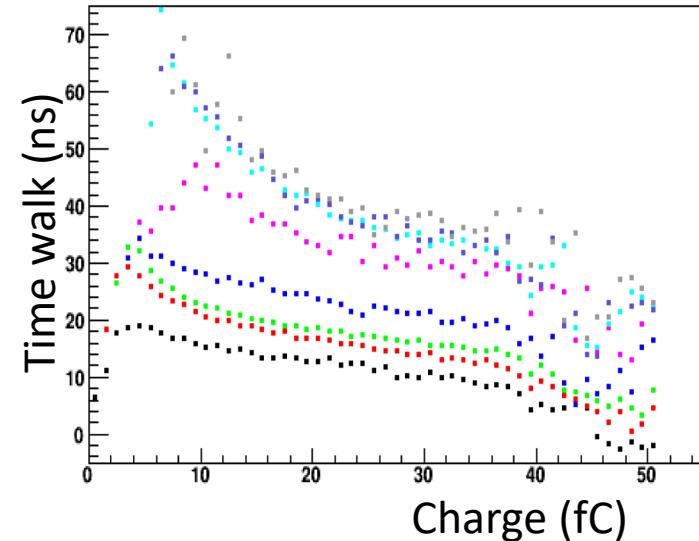
Show files using tag: [CgemCalibFunSvc-00-00-04](#)

# Interfaces of reading time walk values

```
double getTimeWalk(int layer, int xvFlag, int sheet, int stripID, double Q) const;
double getTimeWalk(double Q, double threshold) const;
```

- Calculate time walk values by interpolation
- For input threshold
  - Use the function with the closest threshold configuration
- For input charge
  - If charge<0, use 0
  - If charge<min\_value or charge>max\_value, calculate time walk by extrapolation using the closest two points

Use CgemLUTReader (developed by Lia) to get the threshold of each strip



# How to use

- Modification in user's algorithm

- Head file

- #include "CgemCalibFunSvc/ICgemCalibFunSvc.h"
- ICgemCalibFunSvc\* m\_cgemFunSvc;

- cmt/requirements

- use CgemCalibFunSvc CgemCalibFunSvc-\* Cgem

- Source file

- Initialize()

```
StatusCode sc = service("CgemCalibFunSvc", m_cgemFunSvc);
if( sc != StatusCode::SUCCESS ){
    log << MSG::FATAL << "can not use CgemCalibFunSvc" << endreq;
}
```

- execute()

```
double tw = m_cgemFunSvc->getTimeWalk(layer, xv, sheet, strip, charge);
```

or      `double tw = m_cgemFunSvc->getTimeWalk(charge, threshold);`

# Configuration of jobOption

1.

```
#include "$CGEMCALIBFUNSVCROOT/share/job_CgemCalibFunSvc.txt"
```

2. Define time walk calibration file

```
CgemCalibFunSvc.TimeWalkCalibFile =  
"/bes3fs/cgemCosmic/data/timewalk_correction.root";
```

3. Define LUT file

```
CgemCalibFunSvc.LUTFile =  
"/bes3fs/cgemCosmic/data/CGEM_cosmic_look_up_table_from_10_to_17.root";
```

An example of jobOption

```
/bes3fs/cgemCosmic/data/job_example/job_AccessTimeWalk.txt
```