

INTT レポジトリのドキュメント

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Doxygen を使ったドキュメント作成

- [Doxygen](#): プログラムのコード等にあるコメントを使ってドキュメントを作成するツール
 - 例: ROOT
- Doxygen コマンドに設定ファイルを与えると HTML や LaTeX ファイルが生成される。
- ちょっとやってみた: https://sphenix-intra.sdcc.bnl.gov/WWW/subsystem/intt/INTT_repository_doxygen/html/index.html
- イベントベース TTree を作るのに使用しているクラスの説明が必要。Doxygen で作ってみてはどうでしょう？

The screenshot shows the ROOT Reference Guide for the TGraph class. The page title is "TGraph Class Reference". The sidebar on the left lists various ROOT classes and packages. The main content area contains the following information:

- Text:** A TGraph is an object made of two arrays X and Y with npoints each. The TGraph painting is performed thanks to the TGraphPainter class. All details about the various painting options are given in this class.
- Notes:**
 - Unlike histogram or tree (or even TGraph2D), TGraph objects are not automatically attached to the current TFile, in order to keep the management and size of the TGraph as small as possible.
 - The TGraph constructors do not have the TGraph title and name as parameters. A TGraph has the default title and name "Graph". To change the default title and name SetTitle and SetName should be called on the TGraph after its creation. TGraph was a light weight object to start with, like TPolyline or TPolyMarker. That's why it did not have any title and name parameters in the constructors.
- Example:** The picture below gives an example:

```
{
double x[100], y[100];
int n = 20;
for (int i=0; i<n; i++) {
    x[i] = i*0.1;
    y[i] = 10*sin(x[i]+0.2);
}
auto g = new TGraph(n,x,y);
g->SetTitle("Graph title;X title;Y title");
g->Draw("AC*");
}
```
- Graph:** A plot titled "Graph title" showing a sine wave. The x-axis is labeled "X title" and ranges from 0 to 2. The y-axis is labeled "Y title" and ranges from 0 to 10. The plot shows a smooth curve with data points marked by asterisks.
- Default X-Points:** If one doesn't specify the points in the x-axis, they will get the default values 0, 1, 2, 3, (etc. depending on the length of the y-points):



Doxygen を使ったドキュメント作成：例

INTT repository
Explanations are available for some macros.

Main Page | Related Pages | **Namespaces** | Data Structures | Files

Namespace List | Namespace Members

```
def intt_ext.take_data ( take_data = True,
                        mode = "calibration",
                        fphx_parameters = None,
                        customize_dac0 = False,
                        customize_dac = False,
                        mask_channel = False,
                        does_scp = False,
                        mask_felix_ch = False,
                        is_rcdaq = False,
                        is_gtmcplib = True,
                        output_name = None,
                        output_dir = None,
                        measurement_time = None,
                        verbosity = 0,
                        help = False
                    )
```

Parameters

take_data	A flag to do the DAQ loop or not. The default is True. For RCDAQ, give False.
mode	'calibration' (default) or 'self' are available.
fphx_parameters	None (default) not to do anything, a path to a file (see send_fphxparam_from_file), or list of commands, which have to be integer, are allowed.
customize_dac0	A flag to apply the individual DAC0 setting (True) or do nothing (False, default)
customize_dac	A flag to apply the individual DAC setting (True) or do nothing (False, default). NOT READY.
mask_channel	A flag to mask channels using Cheng-Wei's map (True) or do nothing (False, default).
does_scp	A flag to send the data file to inttdev (True) or do nothing (False, default).
mask_felix_ch	A flag to disable FELIX channels using Cheng-Wei's map (True) or do nothing (False, default).
is_rcdaq	A flag to switch RCDAQ mode (True).
is_gtmcplib	
output_name	
measurement_time	in sec
verbosity	An integer to show more information on your terminal. It's from 0 (default, minimum) to ?
help	

Return values

Definition at line 1042 of file intt_ext.py.

```
def intt_ext.threshold_setting ( d,
                                threshold
```

felix/intt_ext.py の take_data 関数
run.py はこれで INTT の設定を行っている。

INTT repository
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Data Structures | Data Structure Index | Class Hierarchy | Data Fields

InttEvent Class Reference

```
#include <InttEvent.h>
```

Inheritance diagram for InttEvent:
Collaboration diagram for InttEvent:

Public Member Functions

```
InttHit * addHit ()
void clear ()
void copy (InttEvent *org)
InttHit * getHit (const InttHit)
int getNHits ()
InttEvent ()
void show ()
void sort ()
virtual ~InttEvent ()
```

Data Fields

```
Long64_t boe
int evtSeq
TClonesArray * fHitArray
int fNhits
```

Detailed Description

Definition at line 52 of file InttEvent.h.

Constructor & Destructor Documentation

```
InttEvent::InttEvent ( )
Definition at line 95 of file InttEvent.cc.

InttEvent::~InttEvent ( )
Definition at line 100 of file InttEvent.cc.
```

Member Function Documentation

```
InttHit * InttEvent::addHit ( )
Definition at line 105 of file InttEvent.cc.

void InttEvent::clear ( )
```

general_codes/hachiya/InttEventTree の InttEvent クラス
現在のイベントベース TTree はこのクラスを使っている（はず）

考えるべき点

- どこにドキュメントを公開するのか？
 - sphenix-intra.sdcc.bnl.gov? アクセスが面倒
 - GitHub 内? できるけど結構面倒
- 誰がメンテナンスするのか？
 - GitHub 内にドキュメントを作るなら自動化はそれほど難しくはないはず
(そもそも GitHub 内を使うのが難しい)
 - SDCC 内にドキュメントを作るなら、自動化はちょっと難しい
(レポジトリの更新を捉えるのが難しい、普通のアカウントでは cron が使えない)
 - 手動ならなんとでもなるけど面倒
- Doxygen に沿ったフォーマットは？
 - 糠塚が見本を提供すれば良い