

TRT Documentation

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Introduction

- I have begun a comprehensive effort to collect all needed TRT documentation for Run 2 and to usefully catalog and preserve existing TRT documentation.
 - I gratefully acknowledge enormous amount of help from Andrew Beddall in doing the work and the large amount of time that Anatoli Romaniouk took in checking the task list and setting priorities.
- Almost all of the ATLAS tools for documentation have been put into use to create, maintain, and catalog TRT Documentation.
 - Andrew and I have endeavored to provide a good scheme for the documentation process with some tools.
- However in the end much manual effort is required.

Current Status

- After more than a half year of effort, we have:
 - Largely completed a systematic effort to gather existing documentation.
 - Developed a TWiki page containing a long list of needed documentation with a simple priority.
 - Identified a set of authors for most of the needed documentation.
 - Identified in many cases, a documentation contact person for a whole area (e.g. TRT DAQ).
- I have been pleasantly surprised by the nice level of cooperation with documentation effort.
 - There have been a few instances where I had difficulty in getting people to respond but most people I contacted were cooperative and saw the need for documentation.














Existing Documentation

- The existing documents are captured on 2 TWiki pages:
 - [TrtTaskDocumentation](#): This page contains combination of the TRT documentation task list and a list of recent TRT documents available in CDS, TWiki, SVN, and EDMS.
 - [TrtDocumentation](#): This page contains links to additional TRT documents (some of the older) and comprehensive list of ATLAS theses containing content relevant to the TRT.

TRT Documentation SVN Area

- The LaTeX source and figures for the key CDS documents are being consolidated in the TRT Documentation SVN area:
 - [atlasgroups/Detectors/TRT/Documentation](#)**
 - Browse the TRT Documentation SVN area with [WebSVN](#)
 - Browse the TRT Documentation SVN area with [Trac](#)
- All TRT documents should be put in this SVN area.
- The TRT SVN Documentation [README](#) file contains instructions on adding a new or existing document.
 - Please contact [myself](#) and/or [Andrew Beddall](#) for help in adding a new document.
 - If you spot a TRT document in any other place that is not in this repository, please let us know so that we can add it.

Screen Shot of the TRT SVN


| | | | |
|---|--------|--------------------------|--------------------------------|
| ▶  ArXePerformance2013 | 296643 | 6 weeks | jpoveda: Copy from TR_note svn |
| ▶  DAQ_Calibration_LowThreshold_2008 | 297327 | 2 weeks | sheim: adding directories |
| ▶  DAQ_Calibration_LVEqualization_2012 | 297332 | 2 weeks | sheim: initial package |
| ▶  DAQ_General_Granularity_2009 | 297338 | 2 weeks | sheim: initial import |
| ▶  DAQ_General_Synchronization_2009 | 297343 | 2 weeks | sheim: initial import |
| ▶  DAQ_General_Timing_2008 | 297349 | 2 weeks | sheim: initial import |
| ▶  DAQ_HW_ROD_2007 | 297354 | 2 weeks | sheim: initial import |
| ▶  DAQ_HW_ROD_2008 | 297359 | 2 weeks | sheim: initial import |
| ▶  DAQ_HW_TTCLib_2008 | 297365 | 2 weeks | sheim: initial package |
| ▶  DAQ_Integration_MySQLToOracle_2008 | 297531 | 2 weeks | sheim: reshuffling |
| ▶  HighOccupancyTrackingPerformance2013 | 295751 | 2 months | dkrasnop: initial package |
| ▶  OnlineMonitoring2013 | 297092 | 4 weeks | vogel: ATL-COM-DAPR-2013-001 |
| ▶  ParticleIdentificationPerformance2011 | 296246 | 7 weeks | beddall: original note |
| ▶  StrawAging2013 | 295752 | 2 months | bweinert: added pdf files |
| ▶  TrackRefittingCalibration2013 | 297680 | 4 days | beddall: version 3 |
| ▶  TrtCalibration2011 | 296247 | 7 weeks | beddall: original note |
| ▶  TrtG4hitsCompression2010 | 295772 | 2 months | beddall: tidy |


TRT Documentation in the TWiki


- In some cases, the TRT documentation is done with TWiki pages. We allow this: particularly for documents that must be revised frequently such as the TRT Documentation Task list.
- However for proper preservation and versioning of documents using CDS and EDMS are greatly preferred. So please restrict the use of the TWiki to cases where the flexibility provided by the TWiki is truly necessary.
 - Anatoli Romaniouk has said that all qualification tasks require a CDS document and Andrew and I completely agree.

TRT Documentation Tasks

- As mentioned previously, we have created a TWiki page ([TrtTaskDocumentation](#)) to track what documents exist, what documents are missing, and who is writing the missing documentation.
 - TrtTaskDocumentation contains a large table with sections corresponding to the areas of activity within the TRT.
 - If a name is shown on the line for a particular document then we expect that person to be writing that document.
 - If a name followed by a question mark is shown on a line, we need to ask that person to write the indicated document.
 - Completed documents show links to the final document but no visible names. This prevents me from bothering someone who completed writing a document.

 means that the documentation is complete, and no more documentation is required for now.

 means that the person is assigned and documentation writing is under way.

 means no one has accepted responsibility yet (suggested people are shown).

 means we have not identified any persons and the documentation is urgently needed.

Comments on the Task List

- The rest of this talk is brief comments on the areas of documentation. Each slide corresponds to a section of the documentation table.
 - The limited time allotted for this talk forced me to move some of these slides into the backup section of the talk.

Low Threshold Calibration

- Alex Alonso who has done a great job leading the calibration work.
 - Alex is nearing the end of his postdoc position.
- A good overall paper on the calibration method is in CDS and SVN.
- A significant amount of documentation needs to be written for the newer pieces of the calibration system: in particular on TMS and the new web based system to upload the calibrations to the conditions database.
- I am seeking someone to be a contact person for the calibration documentation,

DCS and Hardware

- This area includes LV power, HV power, the gas gain stabilization and all of DCS.
- There is a lot of documentation on DCS: both a good TWiki linking lots of technical documents and a long document on shift operation that is in EDMS.
- The other areas seem to have old or no documentation.
- Zbyszek Hajduk has agreed to be the documentation contact.

TRT DAQ

- There is a lot of existing documentation some of it in LaTeX format (but not in CDS) and some of it on various TWiki pages.
- Sarah Heim has recently migrated most of LaTeX documents into the TRT documentation SVN (Thanks Sarah!!!!!!)
 - I need to update the TWiki to include links to the migrated documentation.
- The DAQ system is being modified to cope with the much higher rates expected in Run 2 and much of the documentation will need updating.
- Sarah Heim has agreed to be the contact for the TRT DAQ documentation and is organizing the work.

Performance: Tracking & High Occ

- There is a CDS note about tracking during the first running period.
- Jenny Ivarsson's qualification work on the validity gate that generated a document.
- Documents on tracking in heavy ion data and in busy environments (e.g. high pile-up pp running) exists or is being written.
- Still need to find someone to document tracking with 25 ns beam crossings.
- There is still work to do here but nothing is urgent.
- For now Andrew and I will monitor this area and make sure that work being done is documented.

Performance: Particle ID

- There is an enormous amount of work in this area and lots of documentation. However there are gaps in what is documented and lots of new activity areas that are yet to be documented.
- The particle identification studies break into those using the high threshold and those using ToT. We have lots of documents for the lower luminosity running but we need to worry about higher luminosity.
- We will need documentation of the particle ID studies made for various TRT configurations using the Ar gas mixture.
- Troels Petersen is serving as a contact person for the particle ID,

Final Thoughts

- I believe that there are a few partially completed notes but I have lost track of them. If you know of a partly done note relevant to the TRT that is some private place, please contact me.
- Andrew and I are ready and eager to help edit your writing. Especially for people who are not native English speakers and are shy about writing in English, we can provide substantial help in getting your document in shape. Please ask if you need help.

Backup

- I removed these slides from the main talk to save time.

High Threshold Calibration

- This area is stretched to include both the high threshold calibration and aging issues (including long term monitoring).
- Some documentation on aging exists.
- The long term monitoring tools need to be written and documented. Ben Weinert will present some idea in his aging talk.
- Sarah Heim is the contact.

Monitoring and Shifts

- This area includes the on and offline monitoring and Data Quality as well as the shifter instructions.
- The offline monitoring / DQ documentation is great shape thanks to Adrian Vogel. Thanks greatly!!!!
- New effort from the Turkish team is available in this area.
- Certainly some editing of the shifter instructions will be required but I believe that Anatoli Romaniouk and Andrey Loginov will take care of this.
- Vladimir Tikhomirov has agreed to take care of documenting TRTViewer.

Performance: Ar Mixture

- A significant effort is underway on this.
- This area is too new to have much existing documentation.
- Most of the work is qualification tasks so documents must be produced by the workers in order to qualify.
- Andrew and I will serve as documentation contact here.

The Rest

- The remaining work areas are smaller: Gas System, FastOR, General Software, Database.
- There are a few areas of need: most notably documentation of the TRT GeoModel and the drift circle tool
- Andrew and I will look after this area.