

STAR Quality Assurance

☀ Purpose

- ☀ Testing quality of large scale DST production

☀ Offline QA

- ☀ Histograms and scalars

☀ AutoQA System

- ☀ Web-based, uses PERL scripts

Offline QA

- ☀ ROOT-based macros report via histograms and/or scalars

- Event-wise

- # TPC hits; is particular table present

- Run-wise

- mean, rms, min, max # tracks per event in 40 events

- ☀ 3 DST types produced at STAR

- Real data

- Cosmic ray events

- Simulated data

- Mock Data Challenges

- Nightly data

- Library status check (DEV, NEW, PRO)

Offline QA II

- ☀ Used differently for various DST types

- ☀ E.g., Real data vs. Nightly production

- Real – infrastructure should be stable

- Focus more on quality of data

- Nightly – infrastructure probed more

- Stability of libraries on different platforms (Linux, Solaris)
- Different event generator settings exercise code

AutoQA System

- ✦ Written in PERL

- ✦ Builds QA database
- ✦ Provides web access to results

- ✦ Jobs run periodically

- ✦ Finds DST data on disk
- ✦ Executes macros via PERL scripts automatically
 - External control files allow certain macros to run
 - Depends on type of data being analyzed
- ✦ Evaluates test results & saves to DB

STAR->Computing->QA

More on AutoQA

☀ DEV and NEW

- ☀ Uncovers conceptual and programming errors on limited number of events

☀ PRO

- ☀ Verify stability of production over large number of events

Work in Progress

- ✦ Generalize AutoQA through interface to MySQL
- ✦ Run macros under LSF on RCAS for QA of large scale production (PRO)
- ✦ Apply AutoQA framework to Online data-taking to verify stability