

Gammapy/SAT

Towards the integration and verification within CTAO SUSS

Daniel Morcuende, SUSS Dev
daniel.morcuende@cta-observatory.org

Motivation

- Acceptance of Gammapy as part of the CTAO SAT
- Preparation for the SDC
- First release of SAT, within SUSS REL0
- Plan the work shared between SUSS and Gammapy team: AIV

AIV for SAT

- Assembly: Test and release subsystem package
- Integration: Install and deploy package on test cluster (DESY)
- Verification: Tests and quality assurance → Create report
- Needed for the release of SAT
- Know-how from ACADA/DPPS experience

Assembly

- Package hosted in [CTAO GitLab](#)
- Gammapy as core dependency, but not only. Need other libraries to support all science analysis cases (e.g. pulsars)
- Documentation: CTAO-specific science analysis use cases examples
- Verification report (CI, unit testing, quality gates, benchmarking, validation): Lev. C
- Release subsystem package artifact

The screenshot shows the GitLab interface for the 'ctao-sat' project. The page includes project information, a list of files, and a table of recent commits.

CTAO Science Analysis Tools

Science Analysis Tools.

Version: 0.1.dev47+g1ed8d45 Date: Apr 01, 2025

Contents:

- [Installation](#)
- [API Reference](#)
- [Change Log](#)

Indices and tables

- [Index](#)
- [Module Index](#)
- [Search Page](#)

Project information

pipeline passed quality gate passed

127 Commits 1 Branch 0 Tags 29.7 MiB Project Storage 1 Environment

README BSD 3-Clause "New" or "Revised" License CHANGELOG CI/CD configuration

GitLab Pages + Add CONTRIBUTING Auto DevOps enabled + Add Kubernetes cluster

+ Add Wiki + Configure Integrations

Created on March 24, 2025

main ctao-sat / +

Find file Edit Code

Merge branch 'test-sonarq' into 'main' 3468b680 History

Daniel Morcuende authored 22 minutes ago

Name	Last commit	Last update
docs	few more naming changes	1 week ago
src/ctao_sat	cleanup from template leftover	1 week ago
.dockerignore	Add dockerfile and build imag...	1 year ago
.gitignore	Add basic sphinx doc	2 years ago
.gitlab-ci.yml	bring back build docker stage...	1 week ago
.pre-commit-config.yaml	Ignore .fits(.fz) files for pre-c...	10 months ago
CHANGES.rst	init repo	1 week ago
Dockerfile	remove wrong gammapy buil...	3 days ago

Integration tests

- Install and deploy package on test cluster at DESY (+ other data centres?)
- Using Docker + Kubernetes
- Being able to test it in a local machine (dev)
- Interaction with other SUSS subsystems

Verification

- Level B requirements (SUSS)
 - Identify what's needed to support the SDC
- Requirements verification tests (TBD)
 - Benchmarking/Validation
 - Tutorials
 - Test dataset (SDC, Gammapy dataset)
 - How much can we automate
 - Complete them over time
- Finally: Release document

SDC preparation

- Shall use first SAT release
- Need an overview of Science cases, analysis use cases (in contact with Science Office)
- Unsure that we have all the functionalities needed
 - Tests/verification
- Documentation: accessible, properly exposed

Bonus track

- Data volume calculation DL3+ as input for CTAO Computing Model
- Understand what would be the products to keep at each stage for different analysis cases (as standard automated analysis)
 - Quick-look products
 - Quality checks
 - Also related to VODF
- Your insight would be helpful

