

RADIOBLOCKS

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Deliverable 3.1

Deliverable:	D3.1: Software
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<i>Dissemination level:</i>	-

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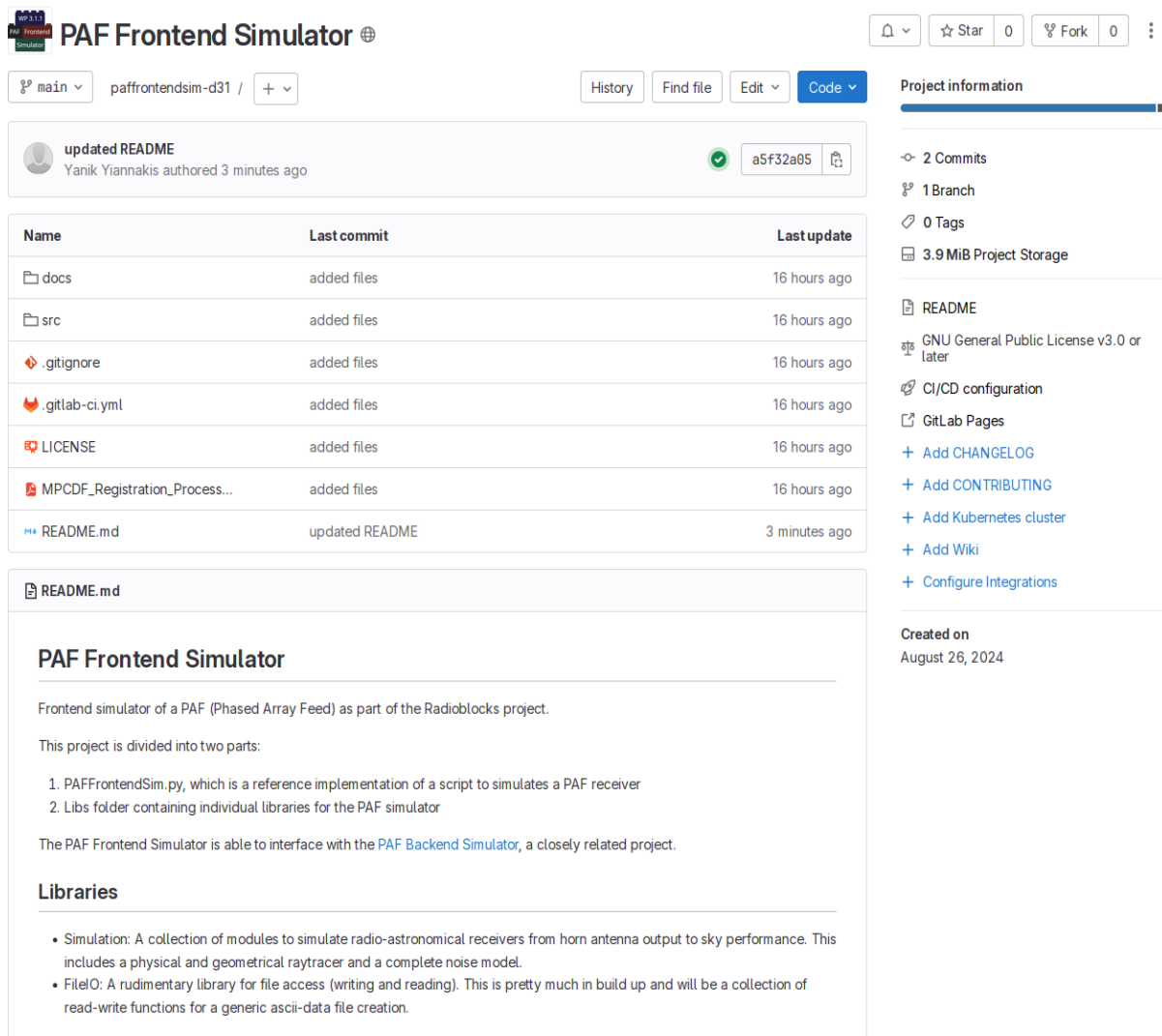
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1. General

This document contains links to two software repositories, released as part of deliverable 3.1. These repositories are hosted on the GitLab instance of the Max Planck Computing & Data Facility. The PAF Frontend Simulator is licensed under GNU GPLv3.0+. The PAF Backend Simulator is licensed under MIT. Both repositories are publicly accessible.

1.1 PAF Frontend Simulator (WP3.1.1 "PAF Design Simulator Wide-field astronomy"):

<https://gitlab.mpcdf.mpg.de/pg-radioblocks/paffrontendsim-d31>



PAF Frontend Simulator

main | paffrontendsim-d31

updated README
Yanik Yiannakis authored 3 minutes ago

Name	Last commit	Last update
docs	added files	16 hours ago
src	added files	16 hours ago
.gitignore	added files	16 hours ago
.gitlab-ci.yml	added files	16 hours ago
LICENSE	added files	16 hours ago
MPCDF_Registration_Process...	added files	16 hours ago
README.md	updated README	3 minutes ago

README.md

PAF Frontend Simulator

Frontend simulator of a PAF (Phased Array Feed) as part of the Radioblocks project.

This project is divided into two parts:

1. PAFFrontendSim.py, which is a reference implementation of a script to simulates a PAF receiver
2. Libs folder containing individual libraries for the PAF simulator

The PAF Frontend Simulator is able to interface with the [PAF Backend Simulator](#), a closely related project.

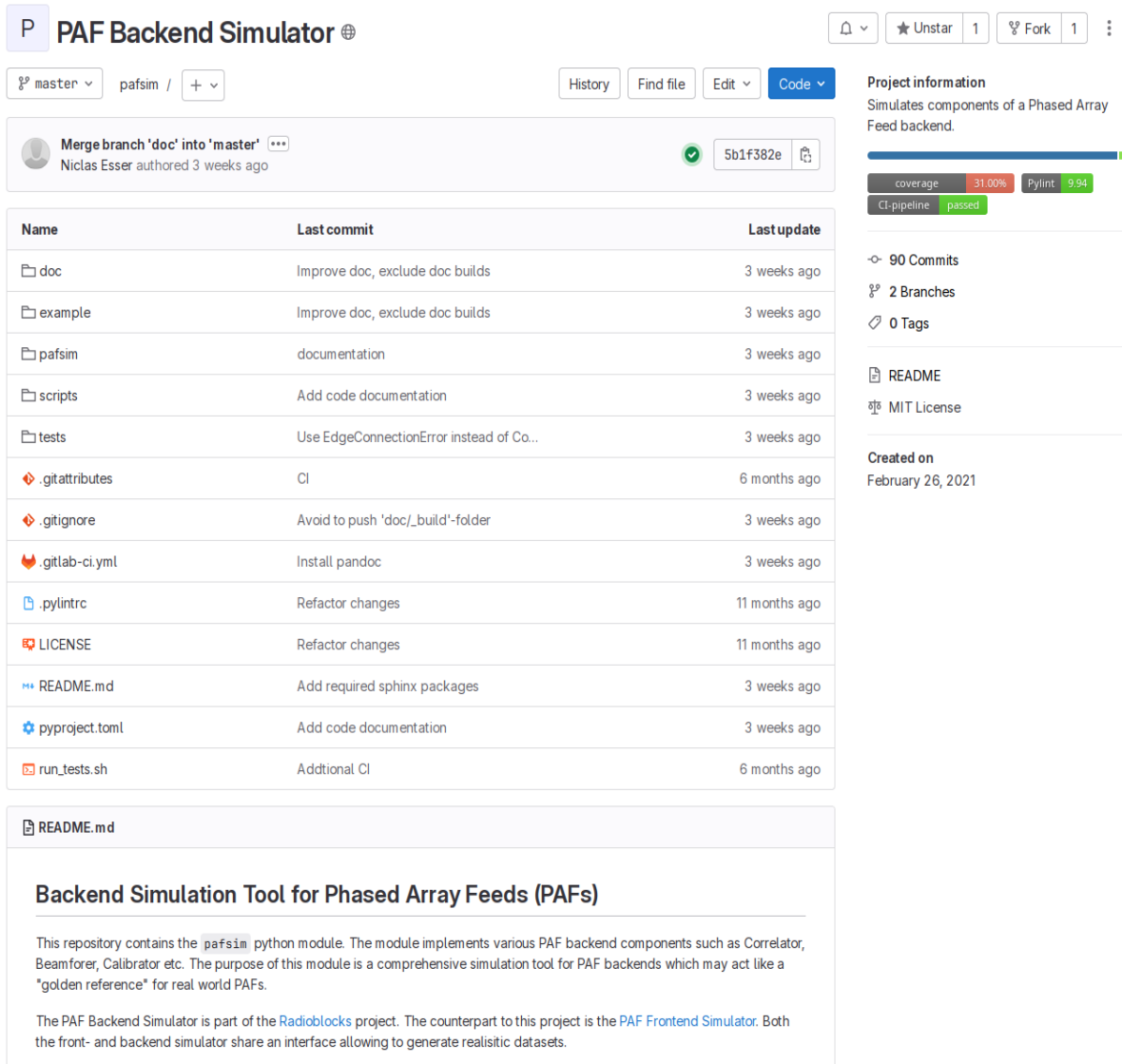
Libraries

- Simulation: A collection of modules to simulate radio-astronomical receivers from horn antenna output to sky performance. This includes a physical and geometrical raytracer and a complete noise model.
- FileIO: A rudimentary library for file access (writing and reading). This is pretty much in build up and will be a collection of read-write functions for a generic ascii-data file creation.

Figure 1: Main page of the PAF Frontend Simulator repository showing the file structure and a brief overview (README.md). A link to the full documentation can be found in the "Documentation" section of README.md. This section is not visible in this screenshot.

1.2 PAF Backend Simulator (WP3.1.4 "PAF Reference implementation")

<https://gitlab.mpcdf.mpg.de/nesser/pafsim>



PAF Backend Simulator

Project information: Simulates components of a Phased Array Feed backend.

Name	Last commit	Last update
doc	Improve doc, exclude doc builds	3 weeks ago
example	Improve doc, exclude doc builds	3 weeks ago
pafsim	documentation	3 weeks ago
scripts	Add code documentation	3 weeks ago
tests	Use EdgeConnectionError instead of Co...	3 weeks ago
.gitattributes	CI	6 months ago
.gitignore	Avoid to push 'doc_build'-folder	3 weeks ago
.gitlab-ci.yml	Install pandoc	3 weeks ago
.pylintrc	Refactor changes	11 months ago
LICENSE	Refactor changes	11 months ago
README.md	Add required sphinx packages	3 weeks ago
pyproject.toml	Add code documentation	3 weeks ago
run_tests.sh	Additional CI	6 months ago

Backend Simulation Tool for Phased Array Feeds (PAFs)

This repository contains the `pafsim` python module. The module implements various PAF backend components such as Correlator, Beamformer, Calibrator etc. The purpose of this module is a comprehensive simulation tool for PAF backends which may act like a "golden reference" for real world PAFs.

The PAF Backend Simulator is part of the [Radioblocks](#) project. The counterpart to this project is the [PAF Frontend Simulator](#). Both the front- and backend simulator share an interface allowing to generate realistic datasets.

Figure 2: Main page of the PAF Backend Simulator repository showing the file structure and a brief overview (README.md). A link to the full documentation can be found in the "Documentation" section of README.md. This section is not visible in this screenshot.