

Status of TA5

TA5 Meeting

02/06/2025

A. Redelbach M. Kramer

Current topics

- Updates for deliverables in Q1/Q2 2025 → Agenda
- Recent Cross-TA-Meeting <https://indico.desy.de/event/49478/>
 - Updates of CI/CD pipeline
 - Strategy for call related to NFDI storage
- Reporting tasks:
 - Submission of DFG data sheet collecting quantitative information on the consortium (e. g. number of event, of publications, of services etc.). The Excel table is provided by the DFG under the form nfdi1000.
 - Information on personnel (in-kind and funded), in-kind resources > (hardware) and finances (if applicable) for the quarterly report Q1/2025
- Proposal for PUNCH 2.0
- Contribution for PUNCHLunch

Current TA5 deliverables

- WP1
 - D-TA5-WP1-2 (30 Sep 2025): Report on impact of on-line filtering on FAIR principles
- WP2
 - D-TA5-WP2-3 (delayed): Test environment for identifying highly complex (multi-parametric) signals in huge data streams.
 - D-TA5-WP2-4 (Q2 2025): Generic tools to both convert trained neural networks into efficient HLS/VHDL FPGA firmware optimised for a real-time, low-latency environment and to establish comparable software solutions.
- WP3
 - D-TA5-WP3-2 (31 Mar 2025): Present a framework in which queries to dynamic archives can be transformed into a dynamic filter (as used by some combination of sensors), and vice versa.
- WP4
 - D-TA5-WP4-3 (30 Jun 2025): Caching strategies for processing a set of benchmark files with the evaluated efficiencies and latencies.
- WP5
 - D-TA5-WP5-2 (delayed): Interference recognition and mitigation schemes for transient discovery leading to a robust triggering system

For discussion

- Contribution for PUNCHLunch: interest for a PUNCHLunch in the coming weeks
- Proposal for PUNCH 2.0
- Use case Future Observations with connections to TA5 workflows

Some ideas related to TA5 for PUNCH 2.0

FPGA-Service providing development platforms (hardware-platforms plus infrastructure):

- Input/output of data streams
- Monitoring of system parameters
- Enabling users to test and evaluate FPGA-algorithms

*Discussed in
meeting early
this year*

Real-time astrophysics: Rapid increase in stream volume, diversity and complexity

- Strong need for tool (e.g. AMPEL)
- standardization
- guideline development

**Coupling to data
products/SDP**

Validation of online workflows (use cases to be discussed):

- Definition of workflows
- Metadata/data base for online data selection
- Validation of (intermediate) results
- Comparison to results from simulations

