UNIVERSITÄT BONN

SI LAB
Silizium Labor Bonn

EDDA MEETING

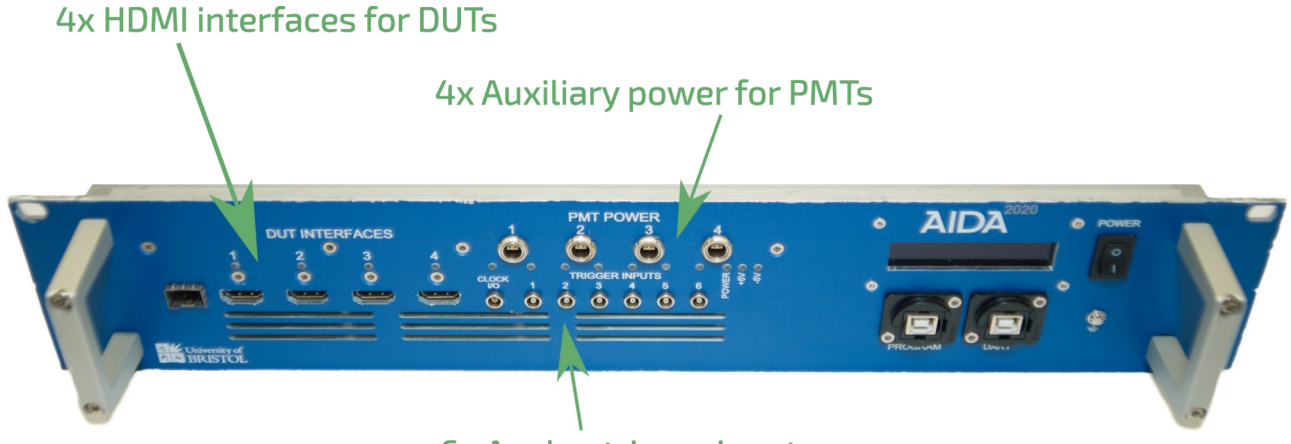
INTEGRATION OF AN PYTHON BASED CONTROL SOFTWARE FOR THE AIDA-2020 TLU

Rasmus Partzsch

The AIDA-2020 Trigger Logic Unit

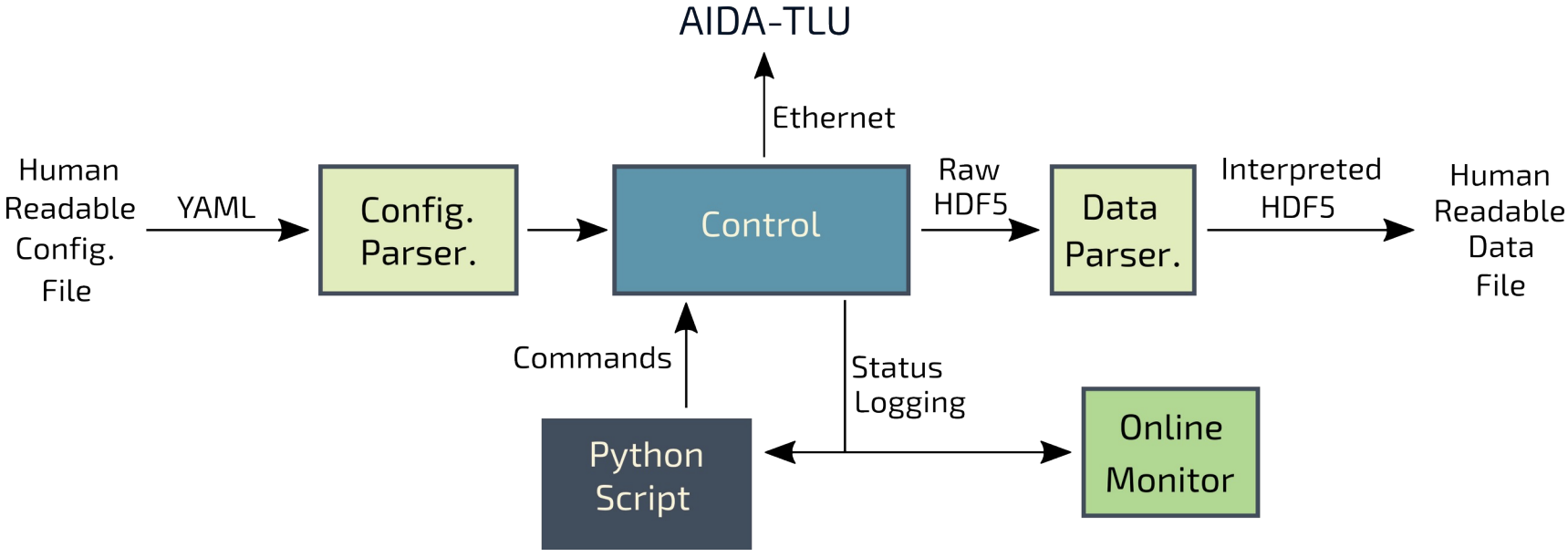
Synchronization of test beam devices with flexible operating modes

– Event building with synchronous time stamp or synchronous trigger number



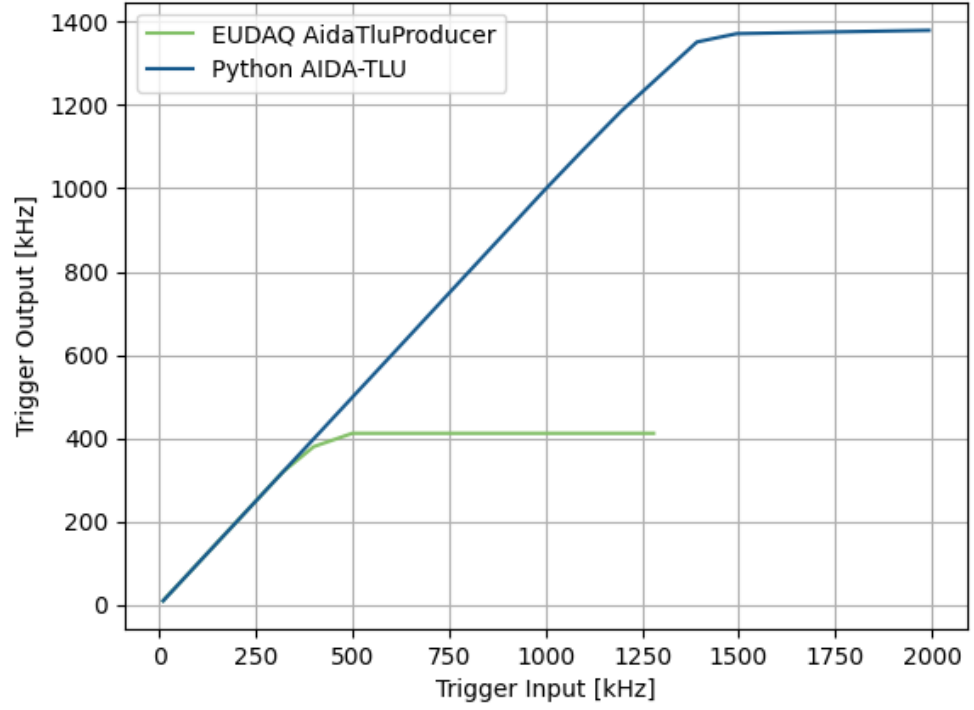
P. Baesso, D. Cussans, J. Goldstein
https://doi.org/10.48550/arXiv.2005.00310

Control Software for the AIDA-TLU



Comparison EUDAQ – Python AIDA-TLU

- Difficult to compare different purposes
- No DataCollector or LogCollector in EUDAQ
- Improvements in FIFO pull
- Focus on user-friendlines
  - E.g. usage LEDs for feedback on configuration



Integration into Constellation

- Satellite is finished:
  - Configuration
  - Logging
  - Metrics

```
[satellites]
[satellites.AidaTLU]

internal_trigger_rate = 0
dut_interfaces = ['aida', 'aida', 'eudet', 'off']

trigger_threshold = [-0.1, -0.1, -0.1, -0.1, -0.1, -0.1]
trigger_inputs_logic = 'CH1 and CH2 or (not CH2)'
trigger_polarity = 'falling'      You, 4 days ago • ENH: toml config file
trigger_signal_stretch = [2, 2, 2, 2, 2, 2]
trigger_signal_delay = [0, 0, 0, 0, 0, 0]

enable_clock_lemo_output = 'True'
pmt_power = [0.8, 0.8, 0.0, 0.0]
save_data = 'True'
output_data_path = 'None'
zmq_connection = 'False'

# Optional stop conditions can also be added to the configuration.
# These can be by timeout in seconds or a maximum output trigger number.
max_trigger_number = 'None'
timeout = 'None'
```

https://github.com/SiLab-Bonn/aidatlu

https://silab-bonn.github.io/aidatlu/