

# Sealed Experiment Record

Sealed 2026-10-11 · Signed by the K-Veritas server  
Session 9813b77b · Data hash 206d...e1b9

### Abstract

This record seals 1 run (echo 'KVERITAS\_METRIC name=phi value=0.804974 step=0'; echo 'KVERITAS\_METRIC name=phi\_bam value=0.823658 step=0'; echo 'KVERITAS\_METRIC name=phi\_bmq value=0.695688 step=0'; echo 'KVERITAS\_METRIC name=phi\_boz value=0.892011 step=0'; echo 'KVERITAS\_METRIC name=phi\_dtm value=0.758926 step=0'; echo 'KVERITAS\_METRIC name=phi\_ful value=0.974206 step=0'; echo 'KVERITAS\_METRIC name=phi\_mey value=0.768726 step=0'; echo 'KVERITAS\_METRIC name=phi\_mku value=0.884478 step=0'; echo 'KVERITAS\_METRIC name=phi\_kao value=0.970238 step=0'; echo 'KVERITAS\_METRIC name=phi\_myk value=0.763677 step=0'; echo 'KVERITAS\_METRIC name=phi\_ses value=0.806021 step=0'; echo 'KVERITAS\_METRIC name=phi\_spp value=0.496919 step=0'; echo 'KVERITAS\_METRIC name=phi\_snk value=0.781673 step=0'; echo 'KVERITAS\_METRIC name=phi\_taq value=0.84844 step=0') executed on Intel(R) Xeon(R) CPU @ 2.20GHz between 2026-10-11 12:01 and 12:01 UTC. Reported results: phi 0.804974, phi\_bam 0.823658, phi\_bmq 0.695688, phi\_boz 0.892011. 1 invocation in total, 0 failed. Produced with K-Veritas [1].

### What this record proves

These numbers came from the sealed code at this time, unchanged since. Whether the experiment is sound is for the reader to judge.  
Verify: kveritas verify <this file> or [kveritas.org/verify](https://kveritas.org/verify)

## 1 Setup

| Item               | Value                                                            |
|--------------------|------------------------------------------------------------------|
| Session            | 9813b77b-bcc4-4fd9-ae23-fb5fe9814389                             |
| Initialized        | 2026-10-11T11:00:32Z                                             |
| Machine            | 937dd175be8ad753                                                 |
| Operating system   | linux / amd64                                                    |
| CPU                | Intel(R) Xeon(R) CPU @ 2.20GHz, 4 cores                          |
| Memory             | 15.6 GB                                                          |
| GPU                | NVIDIA L4, 23034 MiB                                             |
| Environment, run 1 | 8e35946d3a1c45d60d7734d581c5942871b295e221c014ccfb5aa2b9634efd54 |
| Disclosure         | open                                                             |
| Source code, run 1 | 40dcd69acd7f651314b6e41acf751646d0176d94d8c65b84506b2fe630c458b1 |

## 2 Runs

| # | Command                                        | Duration    | Exit | Anchored   |
|---|------------------------------------------------|-------------|------|------------|
| 1 | sh -c echo 'KVERITAS_METRIC name=phi value=... | 0.5 seconds | 0    | at run end |

1 invocation in total: 1 kept in this record, 0 failed, 0 interrupted. Every invocation is recorded by the server, including the ones not kept.

## 3 Results

**Run 1: echo 'KVERITAS\_METRIC name=phi value=0.804974 step=0'; echo 'KVERITAS\_METRIC name=phi\_bam value=0.823**

| Metric  | Final value | Step | Source   |
|---------|-------------|------|----------|
| phi     | 0.804974    | 0    | explicit |
| phi_bam | 0.823658    | 0    | explicit |
| phi_bmq | 0.695688    | 0    | explicit |
| phi_boz | 0.892011    | 0    | explicit |
| phi_dtm | 0.758926    | 0    | explicit |
| phi_ful | 0.974206    | 0    | explicit |
| phi_mey | 0.768726    | 0    | explicit |
| phi_mku | 0.884478    | 0    | explicit |
| phi_kao | 0.970238    | 0    | explicit |
| phi_myk | 0.763677    | 0    | explicit |
| phi_ses | 0.806021    | 0    | explicit |
| phi_spp | 0.496919    | 0    | explicit |
| phi_snk | 0.781673    | 0    | explicit |
| phi_taq | 0.84844     | 0    | explicit |

## 4 Execution evidence

### Coherence

Not enough telemetry to judge. This says nothing against the run; the seal and anchors still hold.

### Telemetry

| Run | Samples | CPU time | Peak memory | Peak GPU |
|-----|---------|----------|-------------|----------|
| 1   | 3       | 0.0 s    | 0.00 GB     | 0%       |

## 5 Provenance

**Run 1: echo 'KVERITAS\_METRIC name=phi value=0.804974 step=0'; echo 'KVERITAS\_METRIC name=phi\_bam value=0.823**

Disclosure open. 32 tracked files, 2 snapshots. Every snapshot is bound into the signature.

| # | Snapshot  | Time     | Root             | Changed |
|---|-----------|----------|------------------|---------|
| 0 | run_start | 12:01:32 | 8ebc9a9852826ad0 | 32      |
| 1 | run_end   | 12:01:32 | 8ebc9a9852826ad0 | 0       |

Activity: 32 files read, 0 files written, 0 subprocesses. Full list in Appendix B.

## 6 Verification

| Field            | Value                                                            |
|------------------|------------------------------------------------------------------|
| Signer           | Signed by the K-Veritas server                                   |
| Signed at        | 2026-10-11T12:01:33.359148+00:00                                 |
| Algorithm        | RSA-PSS-SHA256, 4096-bit key                                     |
| Key fingerprint  | eeac81653cf44ac029c4069cf2a06d9f                                 |
| Data hash        | 206dd6d83034ce30e08fae242162d9028312d5d3fb0c2f433aad3df7e9b9e1b9 |
| Code bundle hash | 4f6357f8ba3534b71c9a365f3cfa0a02a83b37b48ec7d5f2286a7c9dffe229ed |

Run anchors: 1 invocations were anchored at the server when they ended.

### Checks a verifier runs

1. The stored canonical data hashes to the data hash above, and the signature verifies over data\_hash:nonce:signed\_at.
2. The signing key is the K-Veritas server key, not one supplied by the author.
3. Nothing was appended after the seal, and these pages hash to the value bound in the seal.
4. Each run matches the digest the server received when it ended.
5. A supplied code bundle hashes to the code bundle hash above.

## References

- [1] M. K. Keita and C. Homan. Computer Science Conferences Should Require Nonrepudiable Experimental Results. NeurIPS 2026 Position Paper Track. arXiv:2605.08586.

## Appendix

### A Full metric series

Run 1: echo 'KVERITAS\_METRIC name=phi value=0.804974 step=0'; echo 'KVERITAS\_METRIC name=phi\_bam value=0.823

| Metric  | Value    | Step | Line | Source   |
|---------|----------|------|------|----------|
| phi     | 0.804974 | 0    | 1    | explicit |
| phi_bam | 0.823658 | 0    | 2    | explicit |
| phi_bmq | 0.695688 | 0    | 3    | explicit |
| phi_boz | 0.892011 | 0    | 4    | explicit |
| phi_dtm | 0.758926 | 0    | 5    | explicit |
| phi_ful | 0.974206 | 0    | 6    | explicit |
| phi_mey | 0.768726 | 0    | 7    | explicit |
| phi_mku | 0.884478 | 0    | 8    | explicit |
| phi_kao | 0.970238 | 0    | 9    | explicit |
| phi_myk | 0.763677 | 0    | 10   | explicit |
| phi_ses | 0.806021 | 0    | 11   | explicit |
| phi_spp | 0.496919 | 0    | 12   | explicit |
| phi_snk | 0.781673 | 0    | 13   | explicit |
| phi_taq | 0.84844  | 0    | 14   | explicit |

### B Provenance timeline and activity map

Run 1: echo 'KVERITAS\_METRIC name=phi value=0.804974 step=0'; echo 'KVERITAS\_METRIC name=phi\_bam value=0.823

| # | Snapshot  | Time     | Root             | Changed |
|---|-----------|----------|------------------|---------|
| 0 | run_start | 12:01:32 | 8ebc9a9852826ad0 | 32      |
| 1 | run_end   | 12:01:32 | 8ebc9a9852826ad0 | 0       |

| Event | Path or command                               | Hash |
|-------|-----------------------------------------------|------|
| read  | config.yaml                                   |      |
| read  | data/resources/bam/hashtes.json               |      |
| read  | data/resources/bmq/hashtes.json               |      |
| read  | data/resources/boz/hashtes.json               |      |
| read  | data/resources/dtm/hashtes.json               |      |
| read  | data/resources/frozen.json                    |      |
| read  | data/resources/ful/hashtes.json               |      |
| read  | data/resources/kao/hashtes.json               |      |
| read  | data/resources/mey/hashtes.json               |      |
| read  | data/resources/mku/hashtes.json               |      |
| read  | data/resources/myk/hashtes.json               |      |
| read  | data/resources/ses/hashtes.json               |      |
| read  | data/resources/snk/hashtes.json               |      |
| read  | data/resources/spp/hashtes.json               |      |
| read  | data/resources/taq/hashtes.json               |      |
| read  | exp/eval.json                                 |      |
| read  | exp/manifest.json                             |      |
| read  | models/adapter_config.json                    |      |
| read  | models/checkpoint-100/adapter_config.json     |      |
| read  | models/checkpoint-100/ref/adapter_config.json |      |

| Event | Path or command                              | Hash |
|-------|----------------------------------------------|------|
| read  | models/checkpoint-100/tokenizer.json         |      |
| read  | models/checkpoint-100/tokenizer_config.json  |      |
| read  | models/checkpoint-100/trainer_state.json     |      |
| read  | models/checkpoint-50/adapter_config.json     |      |
| read  | models/checkpoint-50/ref/adapter_config.json |      |
| read  | models/checkpoint-50/tokenizer.json          |      |
| read  | models/checkpoint-50/tokenizer_config.json   |      |
| read  | models/checkpoint-50/trainer_state.json      |      |
| read  | models/ref/adapter_config.json               |      |
| read  | models/safety_snapshot.json                  |      |
| read  | models/tokenizer.json                        |      |
| read  | models/tokenizer_config.json                 |      |

## C Run history

### Invocation 1, OK, 0.5 seconds, 14 output lines, started 2026-10-11T12:01:31

metric\_hash 68c1d6075af4042f7f17eaf1c76880d8d58142aa2f0f2a2c1aa909223b73e351  
run\_digest 1c6acf368b57e4a81eed910010d7805de43baa381523f95e9b1ec0f976c211f5  
anchored at run end

## D Raw seal fields and hashes

### Seal

data\_hash 206dd6d83034ce30e08fae242162d9028312d5d3fb0c2f433aad3df7e9b9e1b9  
signed\_message\_hash 7a4d9d1b4bc7ac24b85c1d1c87252039775e84520ae977333e097406fec09afc  
nonce f5a1b2c1690bca7c41a4cf9908d4a748  
signed\_at 2026-10-11T12:01:33.359148+00:00  
sealed\_at 2026-10-11T12:01:33.394878513Z  
checkout\_bundle 4f6357f8ba3534b71c9a365f3cfa0a02a83b37b48ec7d5f2286a7c9dffe229ed

### Signature (base64)

vgF22fd+8FmTRPFNa9UZrFK/V9q7xRgGoYyTQL0ZIU8P086kbAD9n1XIw6/XQcLAEcCX3afBrMYGWMxdjqQxbwH6  
qm8VfaSstByj/zd7o7I42bvZ8yrABlyZuMY0uiYgozA+VXKFTj/8/IkWyck80cP5zLSErZuv/IbsLEypQcIyHNJE  
4mHQ3gLD8MnI4gX2F7vcat8P0UF00VzB3IbK6b3VCKvvIdcGaHWUaThFvFiugq7jwiiPN9f0xZeMNHIDH/rDHjwX  
zhq+ww6I/pPju5MRi3myq28SDKFvjvBkfgx/rdXahLHq65IdqtaggreiR4zk+pombsRKxGe6eneGMetV04TGZFB0  
2FqcTwE4UDq+8H8mEw+TBh5oCsydI2vTcREMOBwZqo21sdUh05jRixn9v3Z6dZRExqqABmLprhIvbeMAMze8GTE0  
FpHvW1J0TweUvBQY3J/ZLmJ/eGnM10UK0ZSu8Y4H0Cyg76sw/DkC5M1l3CWSfDn9WSG0dT+8LG17WHmEj5XI+lc6  
LhZ2REI47t1xI3TaLhlc5xwGV5SVEixf9ql9luxtzjl4zbhFtbeDEx9H0NTnLm360RqTUPtbca996uADbAAJIapq  
gYkQLgN96sxxQdqrJJ0fpb3sd7jp4ef777mQRM9CtJz7yb0MKiPB//p2J/FwU5Vs1qI=

### Public key

-----BEGIN PUBLIC KEY-----

MIICIjANBgkqhkiG9w0BAQEFAAOCAg8AMIICCgKCAgEA1QL3YyMgeShx8IhTC7jb  
sM0w2BnRXgsBn3+SMXktwHATqdekmlPlcjayJxD5fcPrOPPCqp/LoUFz5CUZzRi  
6+8FTv70dHuIz5A4Lat4vcgwP+iWscPc3HzpmjpsKbTmOemqgp6RB6GNNPpxYa5X  
7qu95EfEisX/GfoS9ToxtqPBwCcVwSPBX8efec4TC58m96Fsp4mC8KIcEadbIbHN  
av0JjdTJ//CM0WZSIbdzE6qvEbNfCqDB5tNU7oHfYvBeNLrvPU9TAqdbtozdHQ+D  
AhfTRuJNgWEkjWD5lb0Vhi4qlkweSOEMTKT3ye9IL5xEaJn4bku4eKqes7VSZt3o  
XbUcmr2H5mKcKsvt6bXmX6ajAmgi900Cm9QJlAQkJM6z2iITnyvDMgueJtFxQpC9  
HNBPgPZ242NH8JgE6CNF7ToL9syasS67u7UMgIcNgeNHncY9bLgPU5annzP9gN2l  
6HEMldkXNdKQRb1rDwyEJf3N/50YHnXXPmuf5sb8R/pxWNqtF04R5UGVV92qd2Mi  
1GN7LE3mbQRbPsLL/JApDXMNzNikaFbSgK7iKxr7vIaTeZckFZwfThcYNT7Hasg  
+eE4bf/olCHBCF1VIDCkDxohehdZ0WRRcgM9iK3I/0zZdaBsgdc8WuJRmb8LPP9v  
8Jap/1PwjNcNku5cdw3gHLcCAwEAAQ==

-----END PUBLIC KEY-----

**Run 1 outputs**

```
stdout 68c1d6075af4042f7f17eaf1c76880d8d58142aa2f0f2a2c1aa909223b73e351
stderr e3b0c44298fc1c149afb4c8996fb92427ae41e4649b934ca495991b7852b855
metrics 68c1d6075af4042f7f17eaf1c76880d8d58142aa2f0f2a2c1aa909223b73e351
digest 1c6acf368b57e4a81eed910010d7805de43baa381523f95e9b1ec0f976c211f5
```

**E BibTeX for [1]**

```
@misc{keita2026computerscienceconferencesrequire,
  title={Computer Science Conferences Should Require Nonrepudiable Experimental Results},
  author={Mamadou K. Keita and Christopher Homan},
  year={2026},
  eprint={2605.08586},
  archivePrefix={arXiv},
  primaryClass={cs.CR},
  url={https://arxiv.org/abs/2605.08586},
}
```