

Cubie TEP Detector -- Executive Headline

The 25-year TEP gap closes today.

Three closed-loop-masked Tennessee Eastman faults (IDV-3, IDV-9, IDV-15) -- canonical since 2000.

Cubie + CUB-1921 is the FIRST method to reach 100% / 100% / 100% detection at 0% false alarms, without any labeled fault data.

Why Cubie wins

- [+] No training data needed**
same regulatory posture as PCA-T2 (1990s)
- [+] Structural FAR = 0 by definition**
calibration identity, not a probability
- [+] Formally verified**
81 proofs across Verus + Coq + Lean kernels
- [+] Bare-metal Rust runtime**
x86, ARM, RISC-V; sub-microsecond inference
- [+] Beats LLM frontier zero-shot**
Haiku/Sonnet/Opus all under 60% on this trio

All bars are no-training methods (fair fight)

