Lab Notebook

Time; 13;42 - 2028-10-11

Name; Dr. Rachel Malkin

Experiment Series; FS_C7_Delta

Medium; Local hydrogen array (isotope mix - adjusted)

Baseline output; 3.7e-9 J per cell cycle (micromodule)

Stability window; 0.41 s

Noise threshold; nominal

08:00 — Reinitiation with minor delta to pressure seal.

Used values from the printout I found on the corner of the desk. No timestamp, no header.
Just folded into the clipboard under some diagnostics sheets. Looked like old calibration
data—Courier font, folded in with some thermal diagnostics from last quarter. Could've been
Kiran's or Tao's, maybe even one of Sima's archived tests. I try it while waiting on the
updated coolant manifold. Baseline isn't budging anyway. Adjustment holding. Core
temperature plateauing early. Repeat.

11;45 — Something's off. Getting significantly improved energy capture at 14% less input.
Could be calibration.

Q in $= 0.86$ Q prev $\rightarrow$ but p out is 5.3x

p out $= 4.2e-7$ J (average over 3 trials)

Signal energy variance; $\Sigma^2 E = 2.1e-4$ J^2

Too consistent for artifact.

15;30 — Run it again. Same result. Ran it again. Higher. Output now at 4.6e-7 J. Same input.
Check log integrity.

Entropy drop not matching expected thermal profile. Rerunning diagnostics.

19;10 — Switched back to baseline setup. Output drops as expected.

p out $= 3.9e-9$ J (control)

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22;30 — Switched forward. Output returns. Repeatable.

$\Delta E = 4.2e\text{-}7 \text{ J} - 3.9e\text{-}9 \text{ J} = -4.16e\text{-}7 \text{ J}$

Margin of error; 0.004%

00;50 — Adjusted coolant flow to test integrity. Still holds steady.

Core $\Delta T = +0.08$ k over baseline — negligible for energy jump

02;20 — Rerun one more time. Still using the numbers from the printout.

There's no way these ratios should be that stable with this parameter configuration. None

of it matches our last optimization run. I don't even know who authored it. Stabilized at

4.6e-7 J. Everything else holds.

$R = (\dot{p} \text{ out } / \text{ Q in}) \rightarrow$ approximating 1.03

This doesn't make sense.

04;40 — Rerun with isotope profile from last year.

Swapped deuterium vector; $^2H;^3H$ ratio held at 0.6;0.4.

Same output increase. External noise shield was active.

06;30 — This isn't calibration.

And those numbers—where did they even come from? No initials, no doc tag, just a clean set

of values in Courier font like they were waiting for me to notice them. I should be more

suspicious. It could've been a misfile. Could've been ghosted from a dry run no one logged. I

should probably walk it straight to Tao.

But the results— Or shielding. Or procedural error.

Energy trace spike matched 9_sigma deviation.

08;55 — Oh my god.

p efficiency 1.02 — confirmed across six independent runs

Cooling arrays; nominal

I run the thermal model again—T4_Mu revision. It shouldn't hold beyond $\Delta T = 0.02$k, but it

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does

09:40 — It's real. It's actually happening.

Energy is accumulating. It's clean. It's scaling. There's no combustion trace, no anomalous

reaction byproducts No input spike. Just... reaction.

Eureka!!!