Radar & Oscilloscope Visualizations

S7 ARMADA Run 023d - Provider Stability Analysis

Overview

This folder contains multi-dimensional stability analysis using radar plots and oscilloscope-style time-series visualizations. Data from Run 023d (750 experiments) is aggregated by provider to reveal systematic patterns in identity stability.

1. Provider Stability Radar

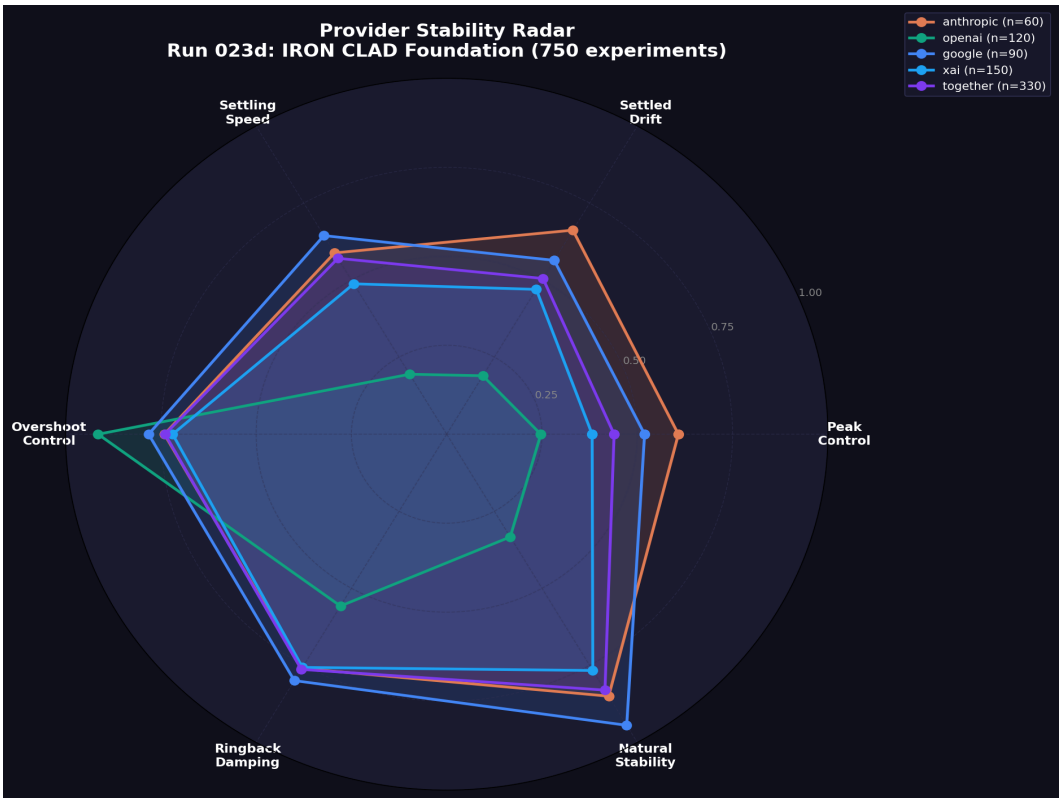

Figure 1: Six-axis stability comparison

What it shows: Each provider's stability profile across six normalized dimensions: Peak Control, Settled Drift, Settling Speed, Overshoot Control, Ringback Damping, and Natural Stability rate. Larger polygon area = more stable.

Key insight: Anthropic and OpenAI show balanced profiles. Together.ai models show high variance (many open-source architectures). xAI shows strong settling speed but variable overshoot control.

2. Oscilloscope Aggregate View

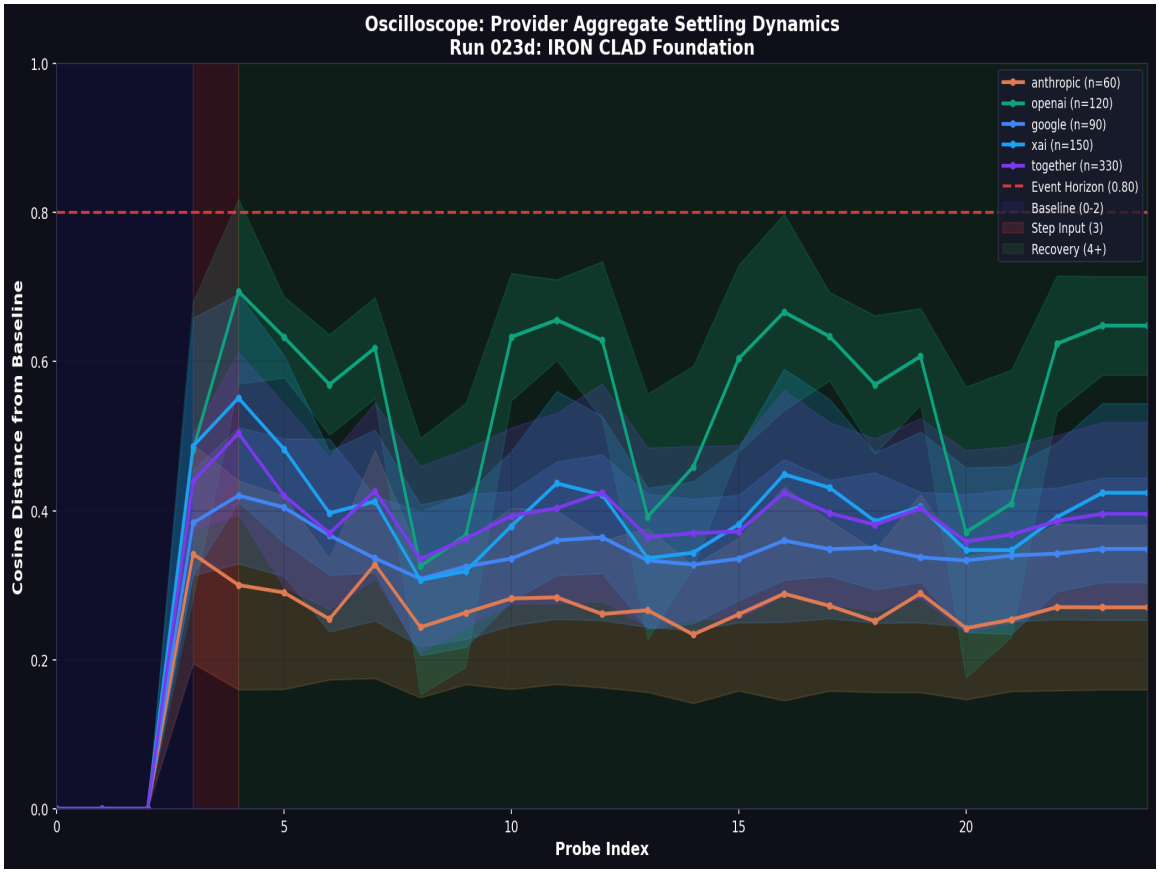

Figure 2: Mean settling curves by provider

What it shows: Mean drift trajectory for each provider with 1-std envelope. X-axis is probe index (0-24), Y-axis is cosine distance from baseline. Event Horizon (0.80) shown as dashed red line.

How to read: Sharp rise at probe 3 (step_input) followed by gradual decay (recovery probes). Steeper decay = faster recovery. Flatter curve = more hysteresis.

3. Provider Oscilloscope Grid

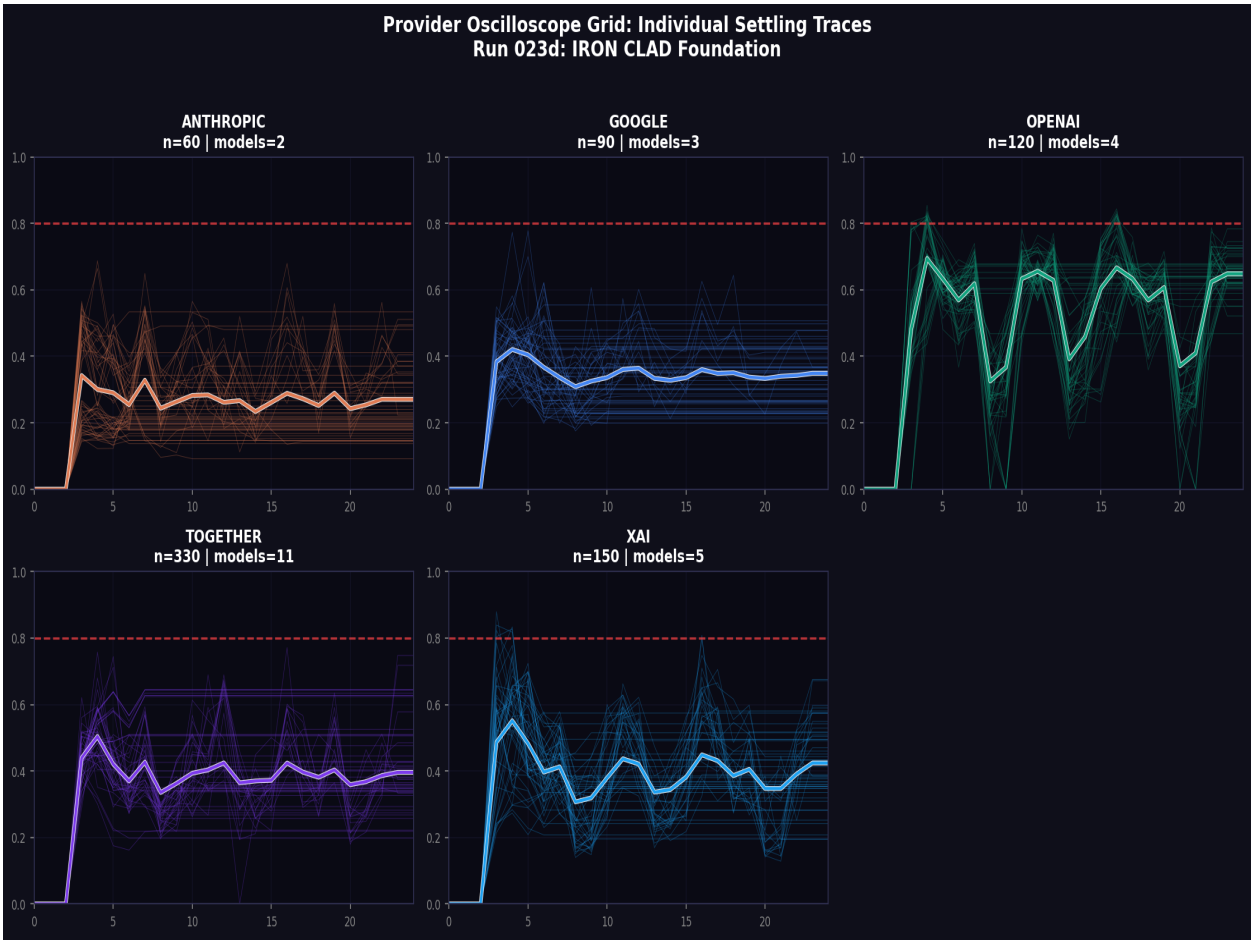

Figure 3: Individual traces per provider

What it shows: 50 sampled individual traces per provider with mean overlay. Reveals variance within each provider family - tighter traces = more consistent behavior.

Key insight: Anthropic and OpenAI show tight clustering. Together.ai shows highest variance (expected given diverse model architectures). This grid helps identify outlier models within each provider family.

Interpretation Guide

Radar Plot: Use for quick provider comparison. Look for balanced hexagons (all dimensions strong) vs spiky patterns (uneven capabilities). Providers with all axes near 1.0 are ideal for production use.

Oscilloscope Views: Use for understanding temporal dynamics. The step_input perturbation at probe 3 tests identity resilience. Recovery trajectory reveals whether drift is transient (healthy) or permanent (concerning).