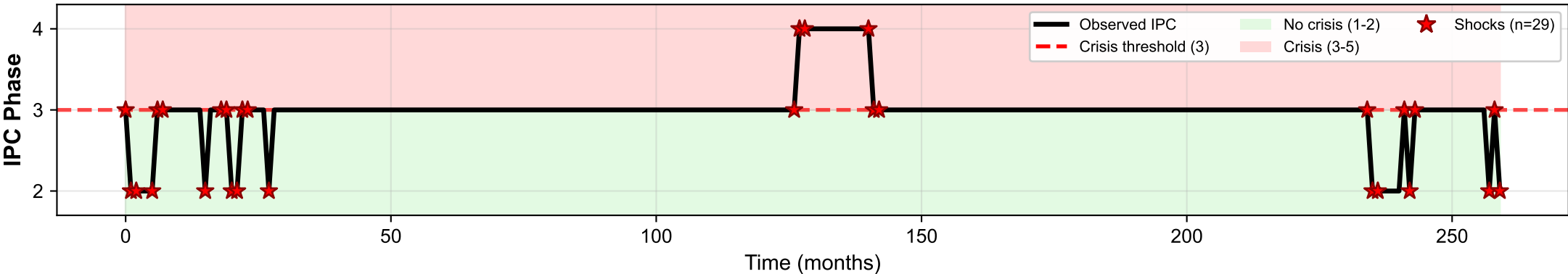# Frequency Decomposition: AR Captures Persistence, Cascade Adds Shock Detection
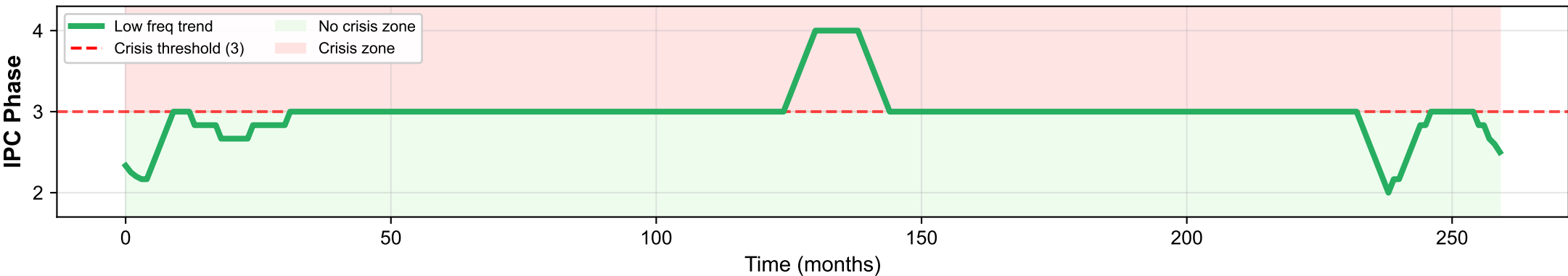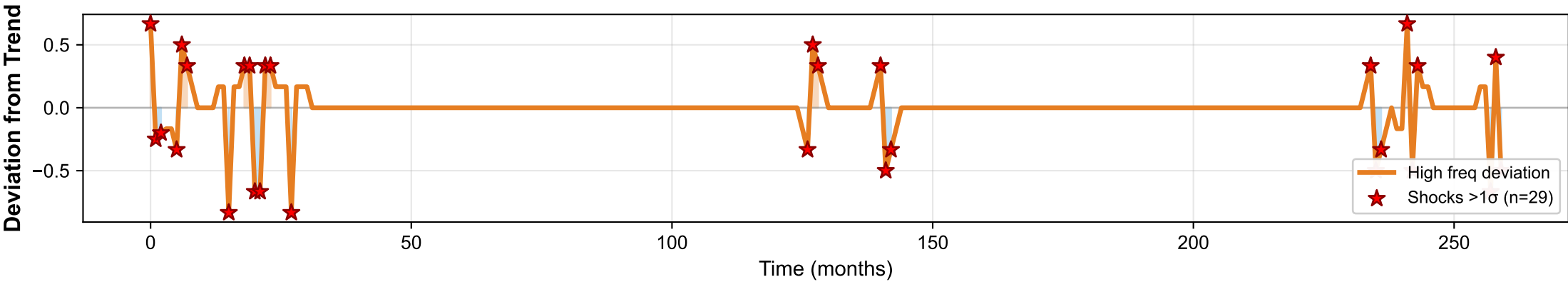
A. Observed IPC Phase: Kenya, Northern Pastoral Zone

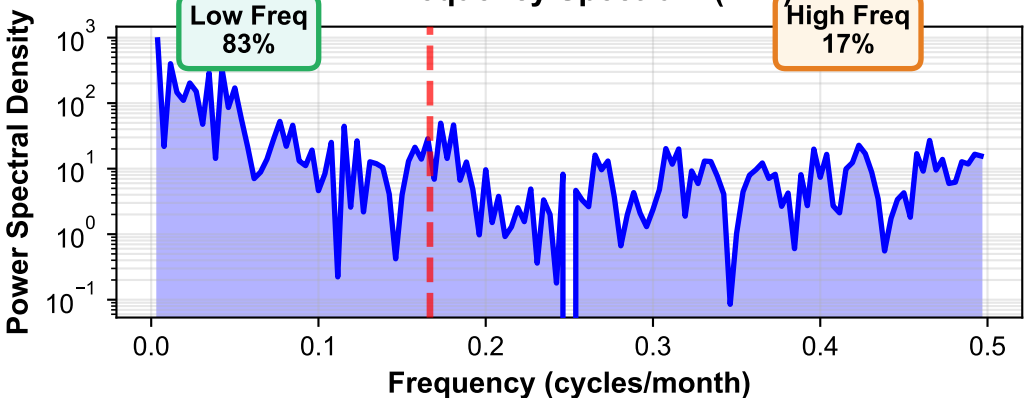Legend: Observed IPC — Crisis threshold (3) — No crisis (1-2) — Crisis (3-5) — Shocks (n=29)

B. Low Frequency (Structural Persistence) — AR Baseline Captures

Legend: Low freq trend — Crisis threshold (3) — No crisis zone — Crisis zone

C. High Frequency (Rapid Shocks) — AR Misses, Cascade Rescues

Legend: High freq deviation — Shocks >1σ (n=29)

D. Frequency Spectrum (FFT)

Low Freq 83%   High Freq 17%

E. Summary

TWO-STAGE DEPLOYMENT

Low Freq (83%): Persistence
AR catches 73.2%

High Freq (17%): Shocks
Cascade +249 saves

29 shocks | 260 periods
Kenya