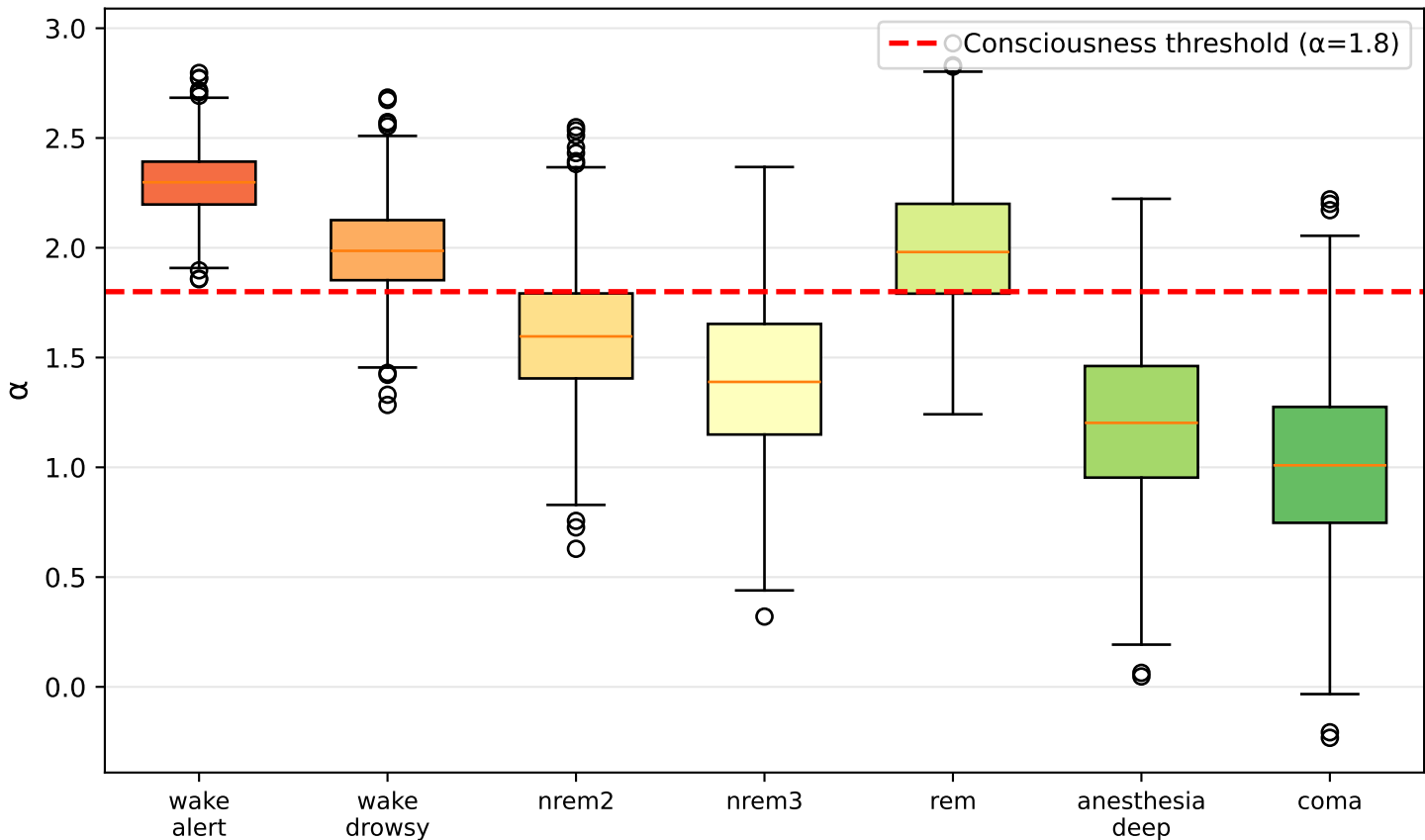
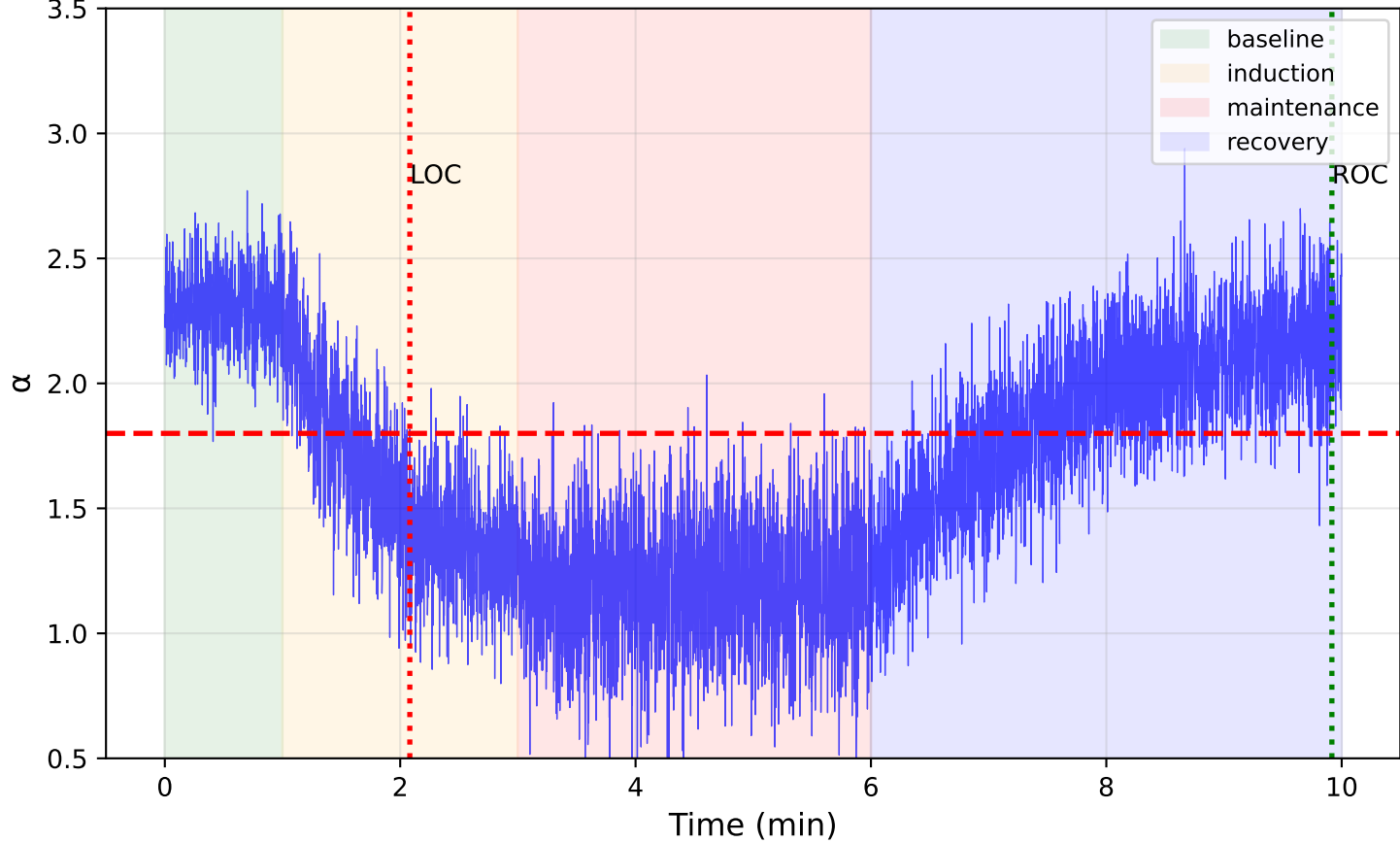


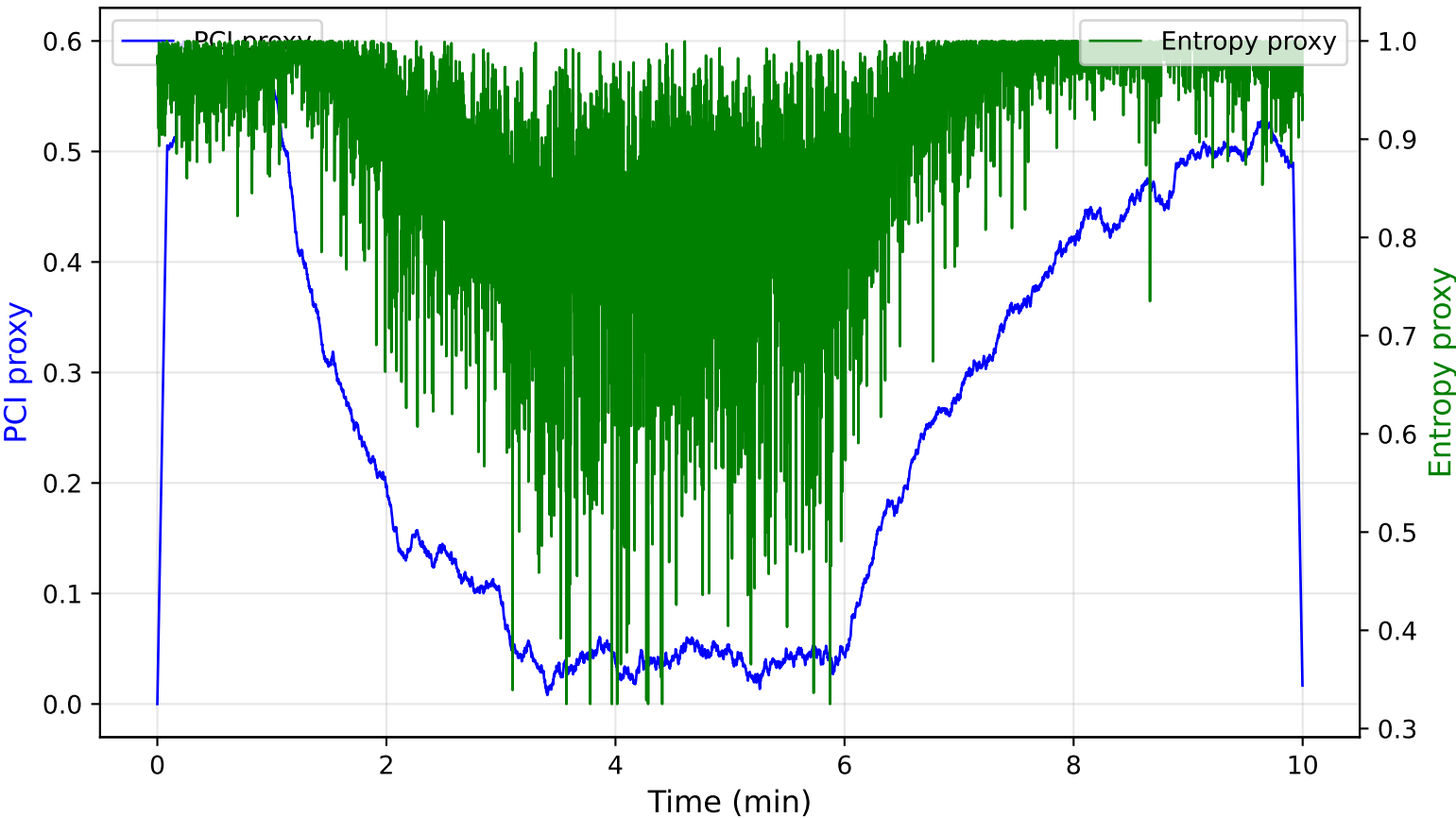
α Distribution by State of Consciousness



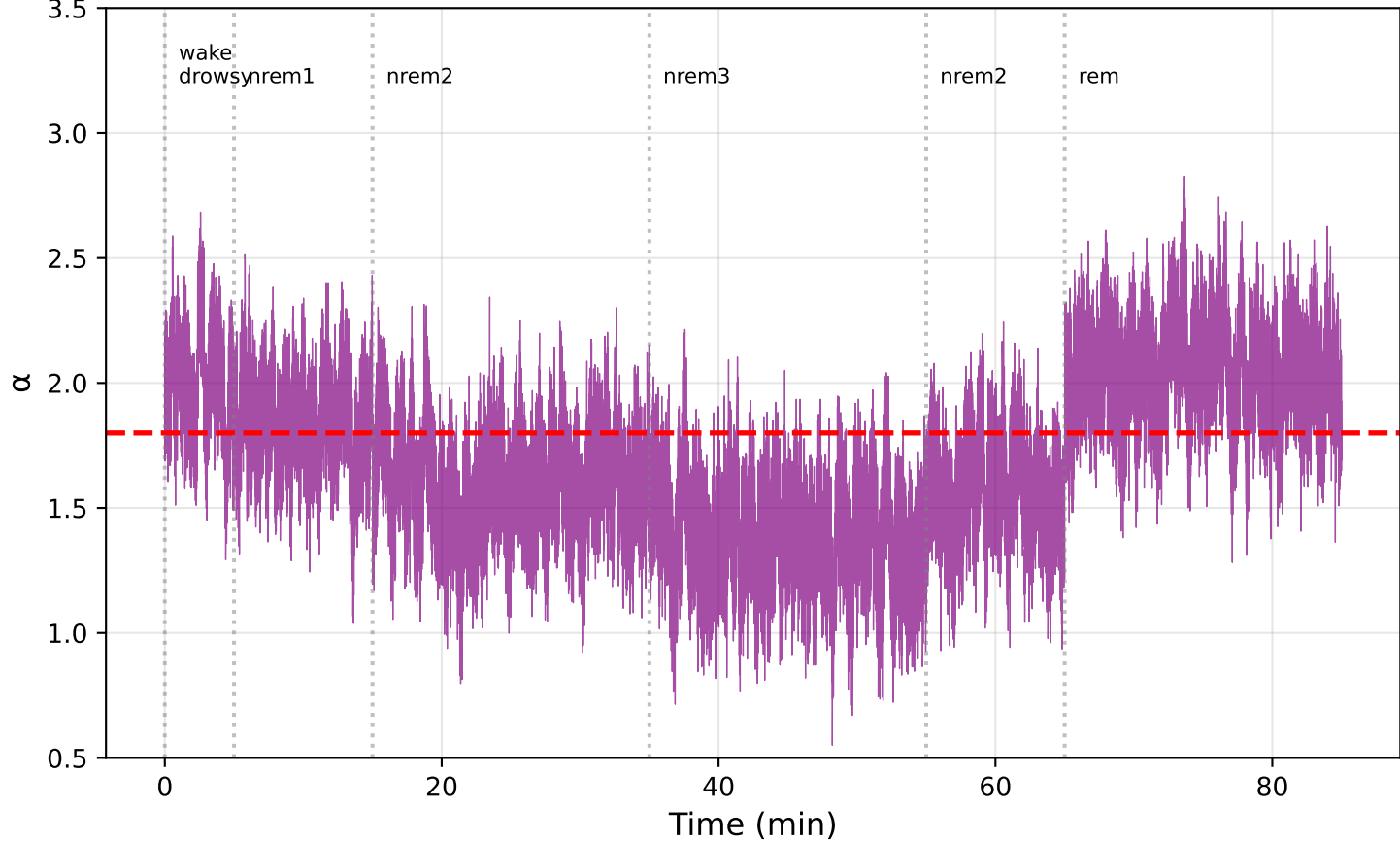
Anesthesia Induction and Recovery



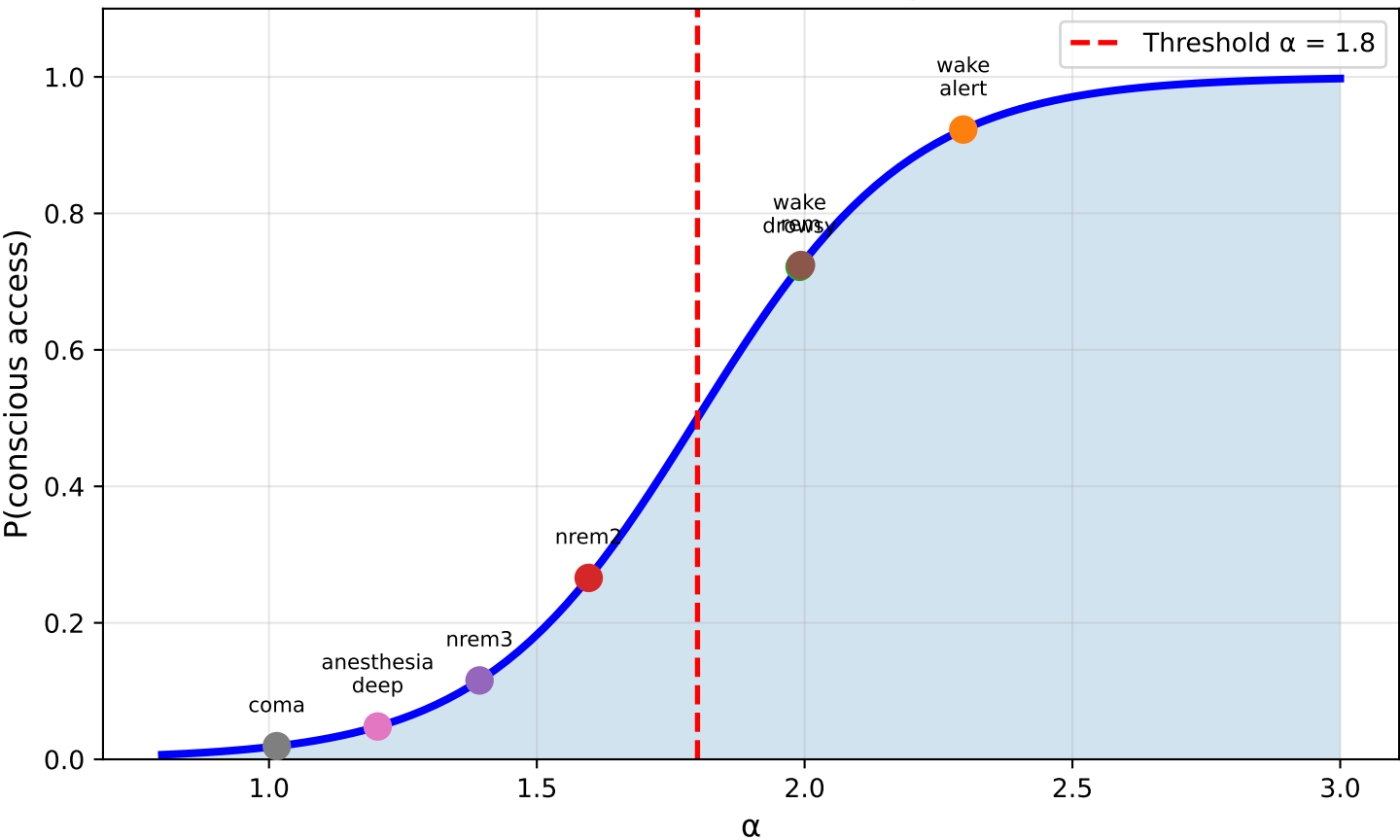
Consciousness Markers During Anesthesia



Sleep Cycle: α Trajectory



Consciousness Probability vs α



RTM-NEURO CONSCIOUSNESS MODEL SUMMARY

CENTRAL HYPOTHESIS

Conscious access requires $\alpha > 1.8$ (threshold) maintained stably across cortical scales.

STATE MAPPING

Wake alert:	$\alpha \approx 2.3$	→ $P(\text{conscious}) \approx 99\%$
Wake drowsy:	$\alpha \approx 2.0$	→ $P(\text{conscious}) \approx 80\%$
NREM2:	$\alpha \approx 1.6$	→ $P(\text{conscious}) \approx 20\%$
NREM3:	$\alpha \approx 1.4$	→ $P(\text{conscious}) \approx 5\%$
REM:	$\alpha \approx 2.0$	→ $P(\text{conscious}) \approx 75\%$
Deep anesthesia:	$\alpha \approx 1.2$	→ $P(\text{conscious}) \approx 1\%$

KEY PREDICTIONS

- α drops BEFORE behavioral LOC during induction
- Recovery shows hysteresis (slower than induction)
- α correlates with but is not identical to PCI
- Sleep stages map to discrete α bands
- Disorders of consciousness show low/unstable α

FALSIFIABLE TESTS

- α predicts LOC timing better than spectral markers
- α shows state-specific distributions in NREM vs REM
- α adds predictive value over PCI for DoC outcome