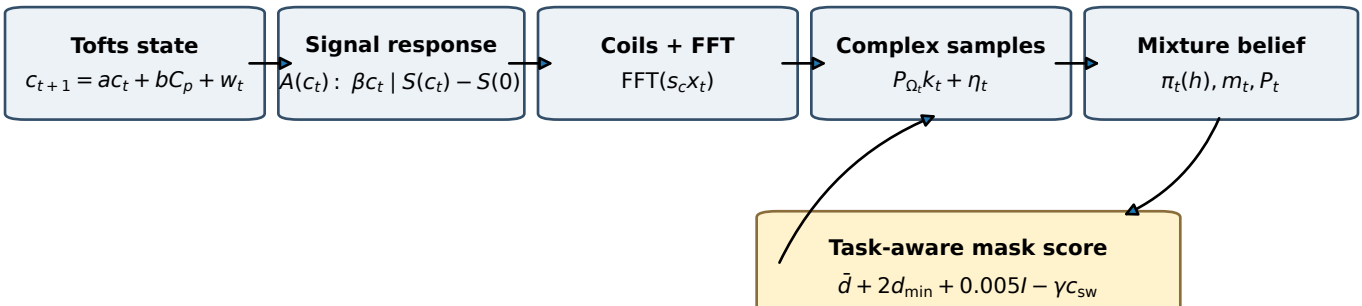

State noise and receiver noise remain distinct; raw data are never magnitude-collapsed.