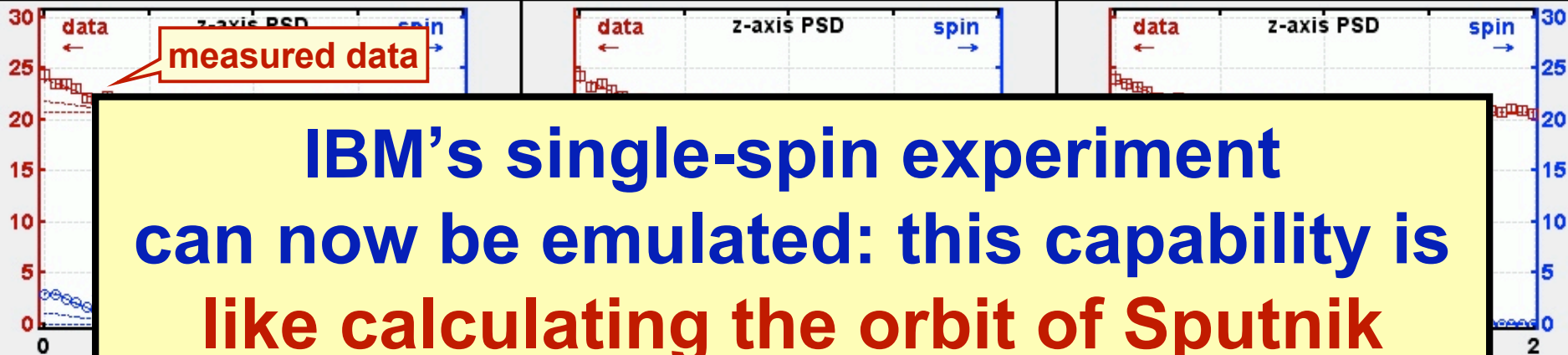
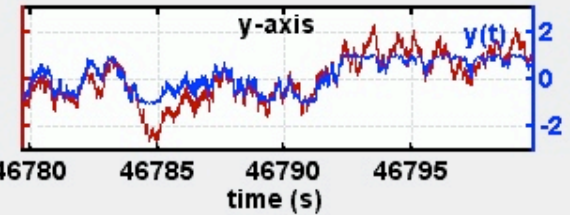
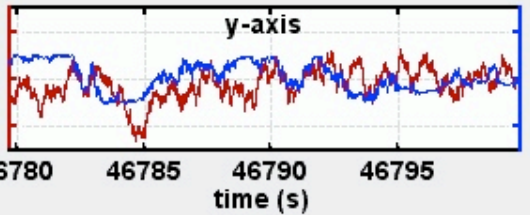
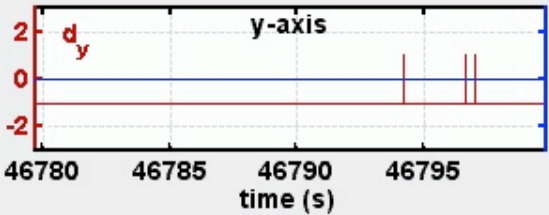
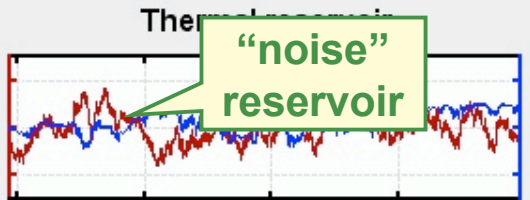
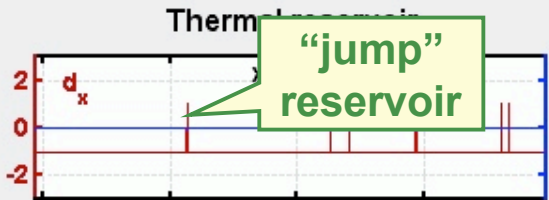
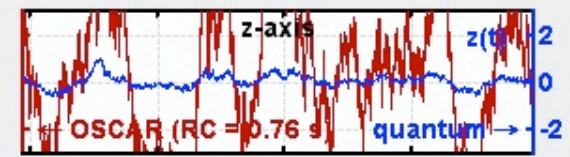
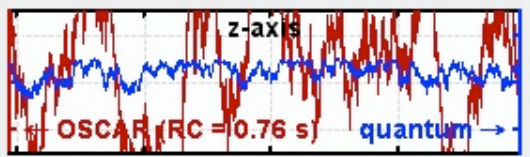
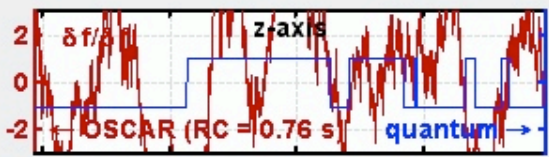


**Q5: Are we confident that quantum spin microscopy will work?**

**A5: QMOR emulations of the IBM single-spin experiment work very well**



**IBM's single-spin experiment can now be emulated: this capability is like calculating the orbit of Sputnik**



**Batrachian notes**

- Quantum jumps thermalize the spin
- Spin z-axis is quantized:  $z = \pm 1$
- Measured  $\langle z^2 \rangle$  is unity

**Ergodic notes**

- Random fields thermalize the spin
- Spin z-axis is near-classical:  $\langle z^2 \rangle \sim 1/3$
- Measured  $\langle z^2 \rangle$  is unity

**Synoptic notes**

- Measurement noise thermalizes the spin
- Spin z-axis is sub-classical:  $\langle z^2 \rangle \sim 0.05$
- Measured  $\langle z^2 \rangle$  is unity