Skype chat with Kater and Jonathan

Logistics

- Time: Tues., 4/9/19 — 12 PM EDT

- Locations
  - Skype
  - Mass. Ave.

Contents

- Has Jonathan gotten up to speed?
- How do our plans and timing look now?
- How shall we approach the numerical questions that still need a little exploring?

- What plots do we want to form and publish? What do we want to observe?
  - Reference: Meeting notes: "Taeho, Kater - 3/20/19"

  - (1) Observe the tightest possible realization of the uncertainty bound.

  - (2) The RHS is greater in the presence of a weak measurement than in the absence (though the weak measurement decreases LHS-RHS).
    - Significance: If we regard the uncertainty bound's magnitude
      as a measure of two quantum operators' disagreement,
      a weak measurement of A
      followed by a strong measurement of F = X
      disagrees with a measurement of I = Z
      more than X does,
      even though X and Z disagree maximally by having mutually unbiased bases.

  - (3) The weak measurement nudges the F at which the uncertainty bound is strongest.
    - Visualization: ridges in the RHS plot's and the LHS-RHS plot's trough

  - (4) Observe weak values as anomalous as can be observed.
    When the weak value goes anomalous (when $\theta_f \approx 0$, such that $F \approx I$),
    - (i) the LHS rises above the weak-measurement-free LHS
      slightly more than the LHS does at other settings.

    - (ii) the RHS approaches $-\infty$.

- Next meeting