What can a deterministic algorithm do?

- Starts with deterministic matrices $S_1^{(1)}, \ldots S_t^{(1)}$ and obtains

- Based on responses, pick $S_1^{(2)}, \ldots, S_t^{(2)}$ and so on

- Assume vec($S_i^{(j)}$) are orthonormal w.l.o.g

- Are first round responses enough to pick good measurements in second round?

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Deterministic Algorithm

- Stack $S_1^{(1)}, \ldots, S_t^{(1)}$ to get a matrix $Q^{(1)}$

$$r^{(1)} = \frac{\alpha}{\sqrt{n}} \, Q^{(1)} \, u \otimes v + Q^{(1)} \, \text{vec}(G)$$

- Based on $r^{(1)}$ pick $Q^{(2)}[r^{(1)}]$