

LRAviaLive! Live! Live!

- Recover a rank- k approximation for A :

- Measure with S_1, \dots, S_t and output B

• **Non-adaptive algorithms decide upfront**

• Adaptive algorithms predict behavior

• How many linear measurements do we need?

• Directed Acyclic Graph Matrix Recovery

A

$$\|A-B\|_2 \leq 2\sigma_{k+1}(A)$$

2

3

An orange square with the letter S in the center.

S

with

A blue square with the letter A in the center.

A

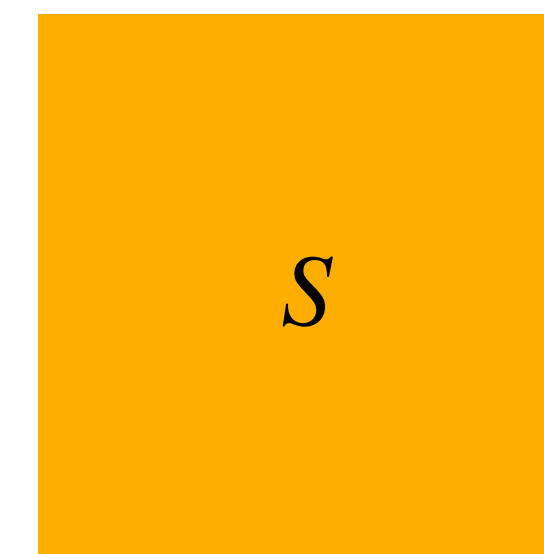
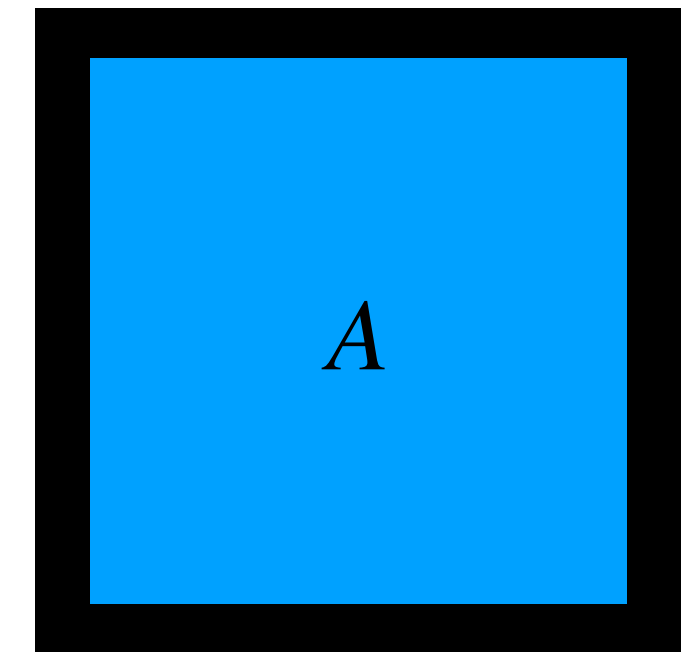
$$= \langle \text{vec}(S), \text{vec}(A) \rangle$$

LRA via Linear Measurements

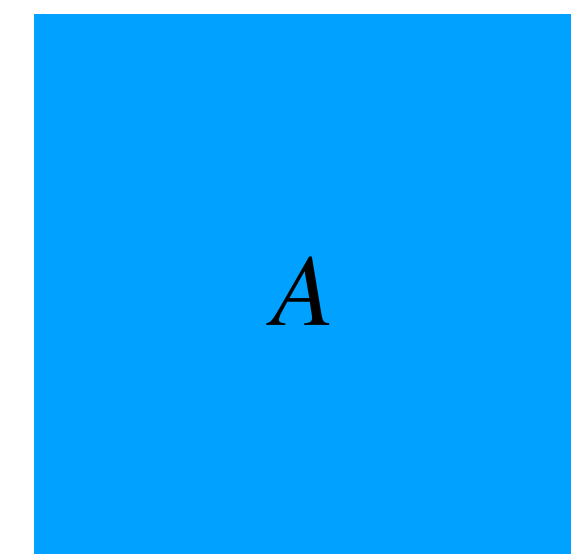
- Recover a rank- k approximation for A :

$$\|A - B\|_2 < 2\sigma_{k+1}(A)$$

- Measure with S_1, \dots, S_t and output B
 - Non-adaptive algorithms decide upfront
 - Adaptive algorithms proceed in batches
- How many linear measurements do we need?
 - Direct connections to Matrix Recovery



with



$$= \langle \text{vec}(S), \text{vec}(A) \rangle$$

Linear Measurements vs Matrix-Vector Products