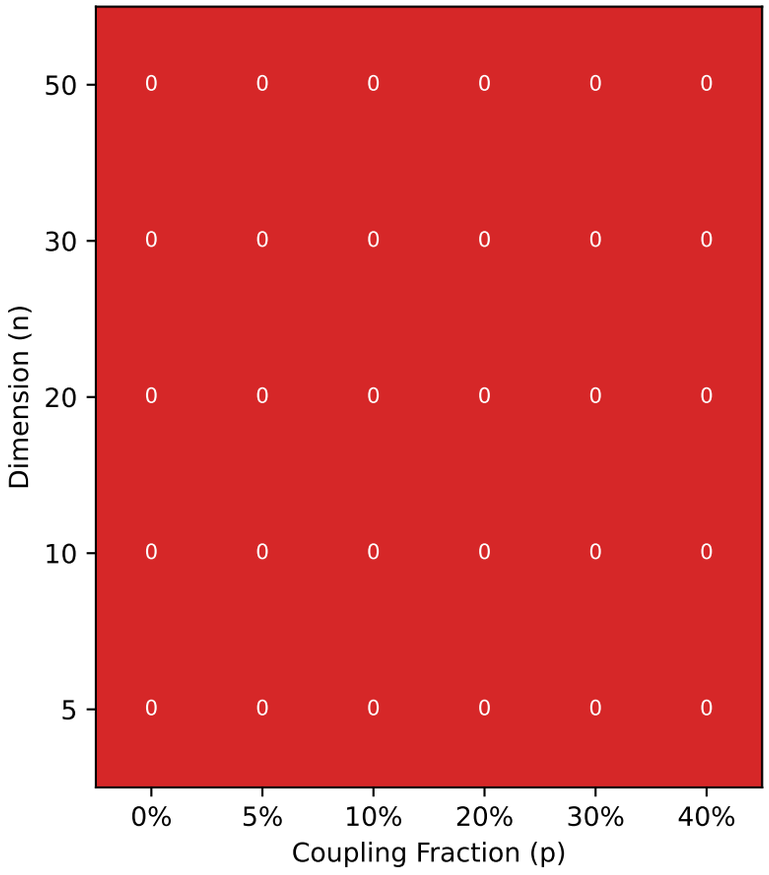

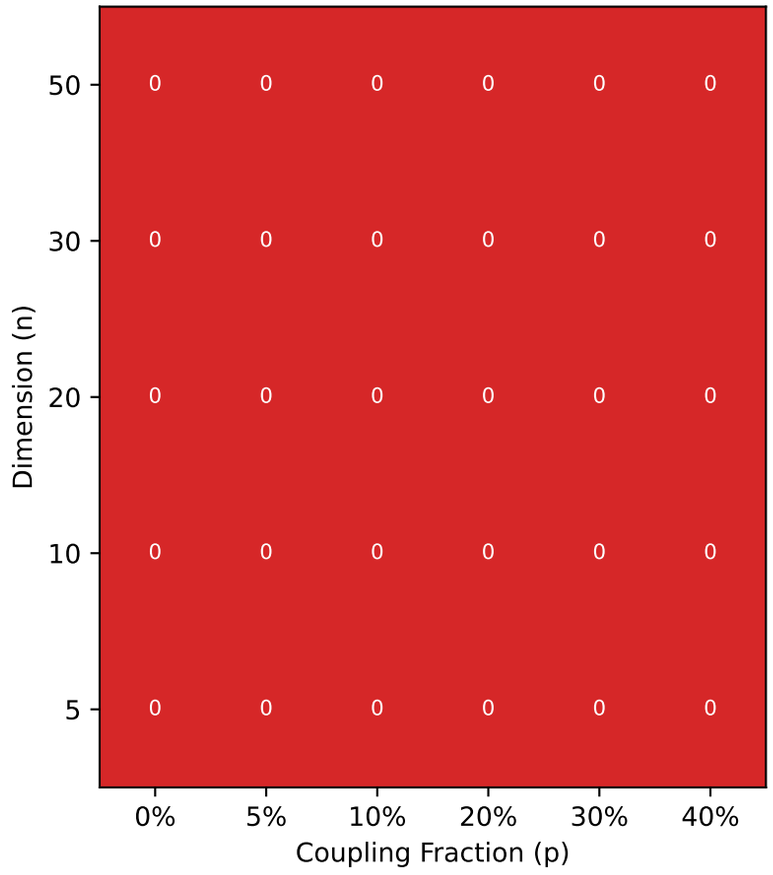

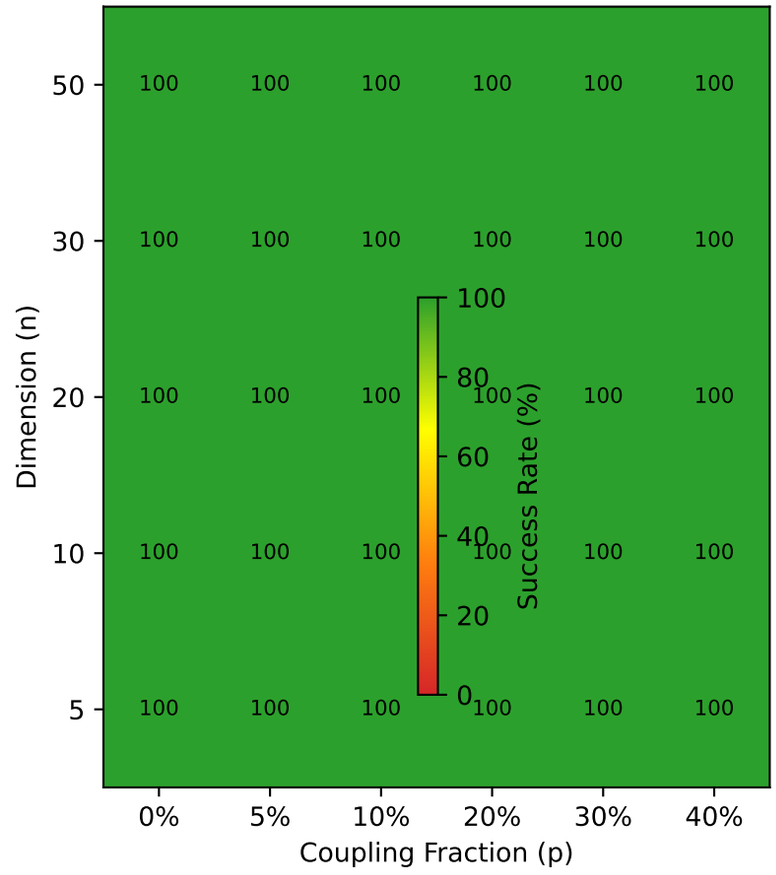

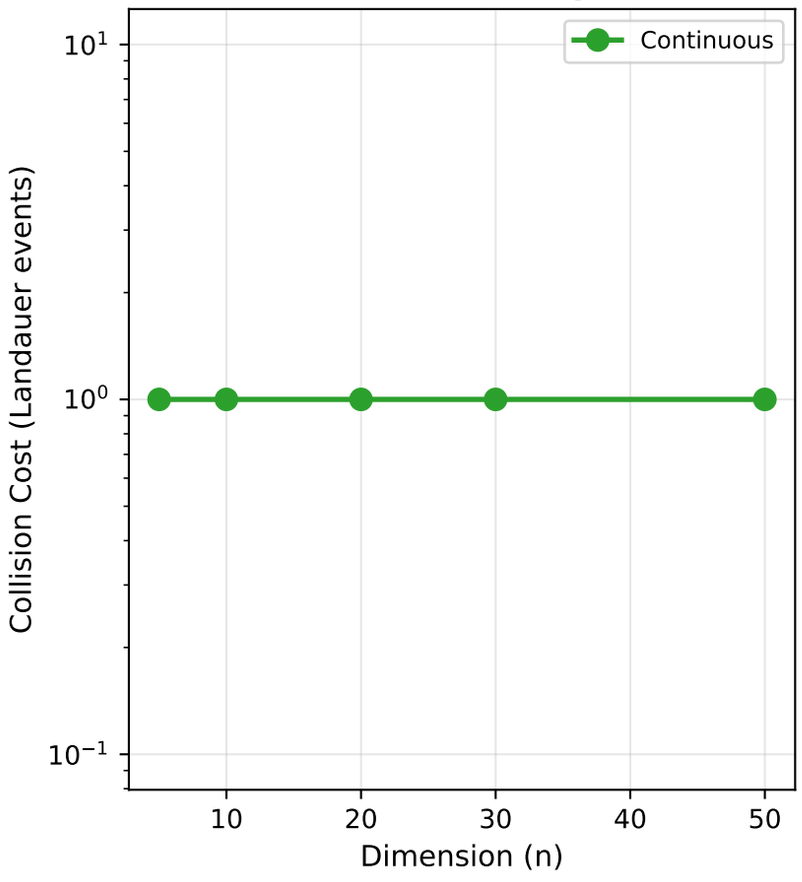

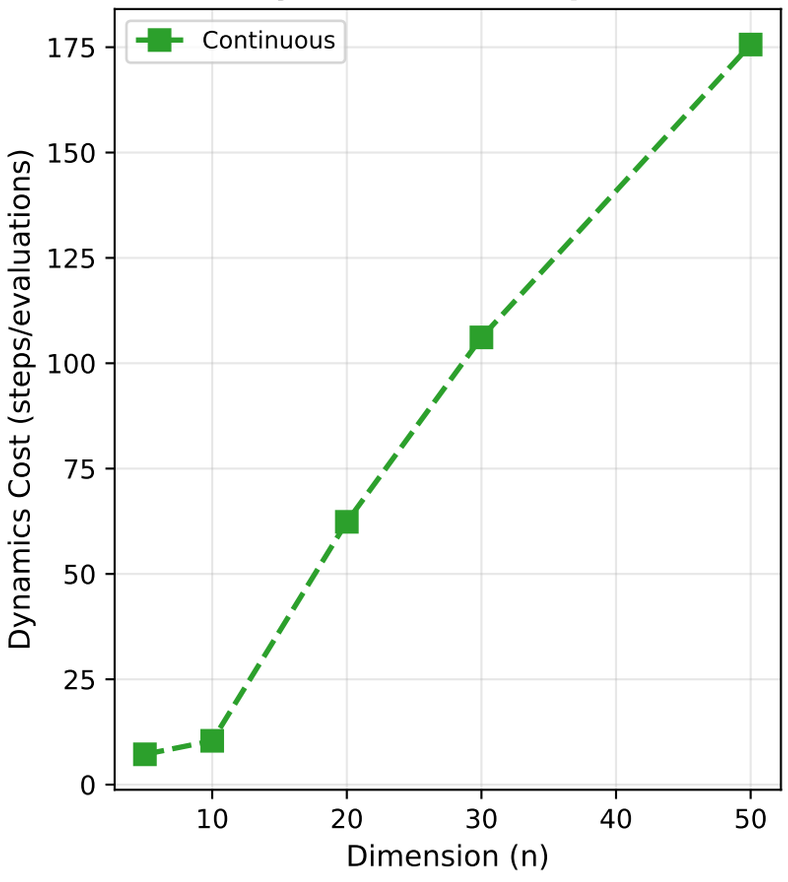


```
KEY FINDINGS:

1. COLLISION COST (Landauer)
   • Greedy/Annealing: O(n) collisions when successful
   • Continuous: 1 collision (readout only)

2. DYNAMICS COST (computational)
   • Continuous is NOT free: uses many gradient steps
   • The claim is about irreversible registrations,
     not total computation

3. PHASE TRANSITION
   • At low coupling (p<0.1): discrete methods work
   • At high coupling (p>0.2): discrete fails,
     continuous succeeds robustly

4. INTERPRETATION
   Coupled transitions create frustrated landscapes
   where sequential commit operations fail, but
   parallel gradient flow succeeds.

Note: Continuous collision = 1 represents the single
Landauer readout cost paid at final measurement.
```