arXiv Version

I have refined the layout in the arXiv version: https://arxiv.org/abs/2505.10349

Recent Papers on Correlated Randomization

Around the same time this paper was completed, several other works on correlated randomization in differential privacy (DP) emerged, providing further insights into how such correlations affect privacy and utility. Typical examples include:

- **[SaTML'25]** **Correlated Privacy Mechanisms for Differentially Private Distributed Mean Estimation**: This is the most similar to our work (JRR). It focuses on pairwise correlated Gaussian noise and its impact on the privacy-utility trade-off.
- **[arXiv:2506]** **Dropout-Robust Mechanisms for Differentially Private and Fully Decentralized Mean Estimation**: This paper studies the multi-party computation (MPC) setting, where "correlated noise" refers to noise vectors that sum to zero across parties. Each party's noise is necessary for privacy against colluding parties, and the overall noise cancels out in the aggregate.

Both papers also survey additional works on other forms of correlated randomization.