

# High-Dimensional Semi-Quantum Cryptography

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## Objectives

Can we have unconditional security with limited Quantum resource?

- Restrict one parties capability.
- Still achieve comparable security.

## Introduction

Perfect security is impossible if all parties are classical. But it is possible if everyone has quantum capabilities. What if one of them doesn't? This is what we answer in this work.

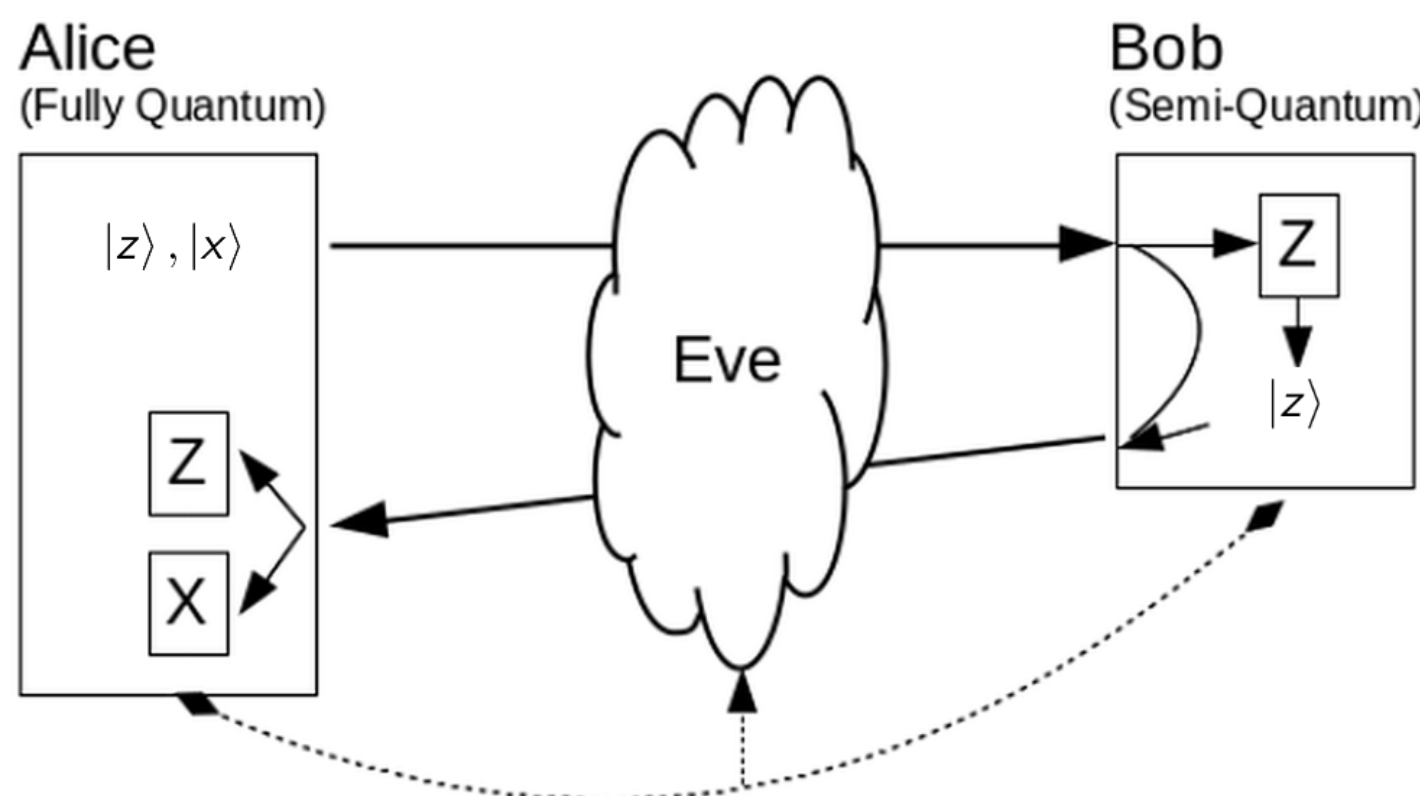


Figure 1: HD-SQKD

## Materials

The following materials were required to complete the research:

- Curabitur pellentesque dignissim
- Eu facilisis est tempus quis
- Duis porta consequat lorem
- Eu facilisis est tempus quis

The materials were prepared according to the steps outlined below:

- Curabitur pellentesque dignissim
- Eu facilisis est tempus quis
- Duis porta consequat lorem
- Curabitur pellentesque dignissim

## Methods

We convert it to a one way protocol, compute it's density matrix.

## Conclusion

- We show that perfect security is possible with limited resources.
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## Additional Information

Maecenas ultricies feugiat velit non mattis. Fusce tempus arcu id ligula varius dictum.

- Curabitur pellentesque dignissim
- Eu facilisis est tempus quis
- Duis porta consequat lorem

## References

- J. M. Smith and A. B. Jones. *Book Title*. Publisher, 7th edition, 2012.
- A. B. Jones and J. M. Smith. Article Title. *Journal title*, 13(52):123–456, March 2013.

## Important Result

Let(UF,UR)be a collective attack against HD-SQKD. Then,there is an attack against the OW-SQKD protocol such that,Eve gets no advantage in either scenario

## Mathematical Section

Nam quis odio enim, in molestie libero. Vivamus cursus mi at nulla elementum sollicitudin. Nam quis odio enim, in molestie libero. Vivamus cursus mi at nulla elementum sollicitudin.

$$E = mc^2 \quad (1)$$

Nam quis odio enim, in molestie libero. Vivamus cursus mi at nulla elementum sollicitudin. Nam quis odio enim, in molestie libero. Vivamus cursus mi at nulla elementum sollicitudin.

$$\cos^3 \theta = \frac{1}{4} \cos \theta + \frac{3}{4} \cos 3\theta \quad (2)$$

Nam quis odio enim, in molestie libero. Vivamus cursus mi at nulla elementum sollicitudin. Nam quis odio enim, in molestie libero. Vivamus cursus mi at nulla elementum sollicitudin.

$$\kappa = \frac{\xi}{E_{\max}} \quad (3)$$

## Results

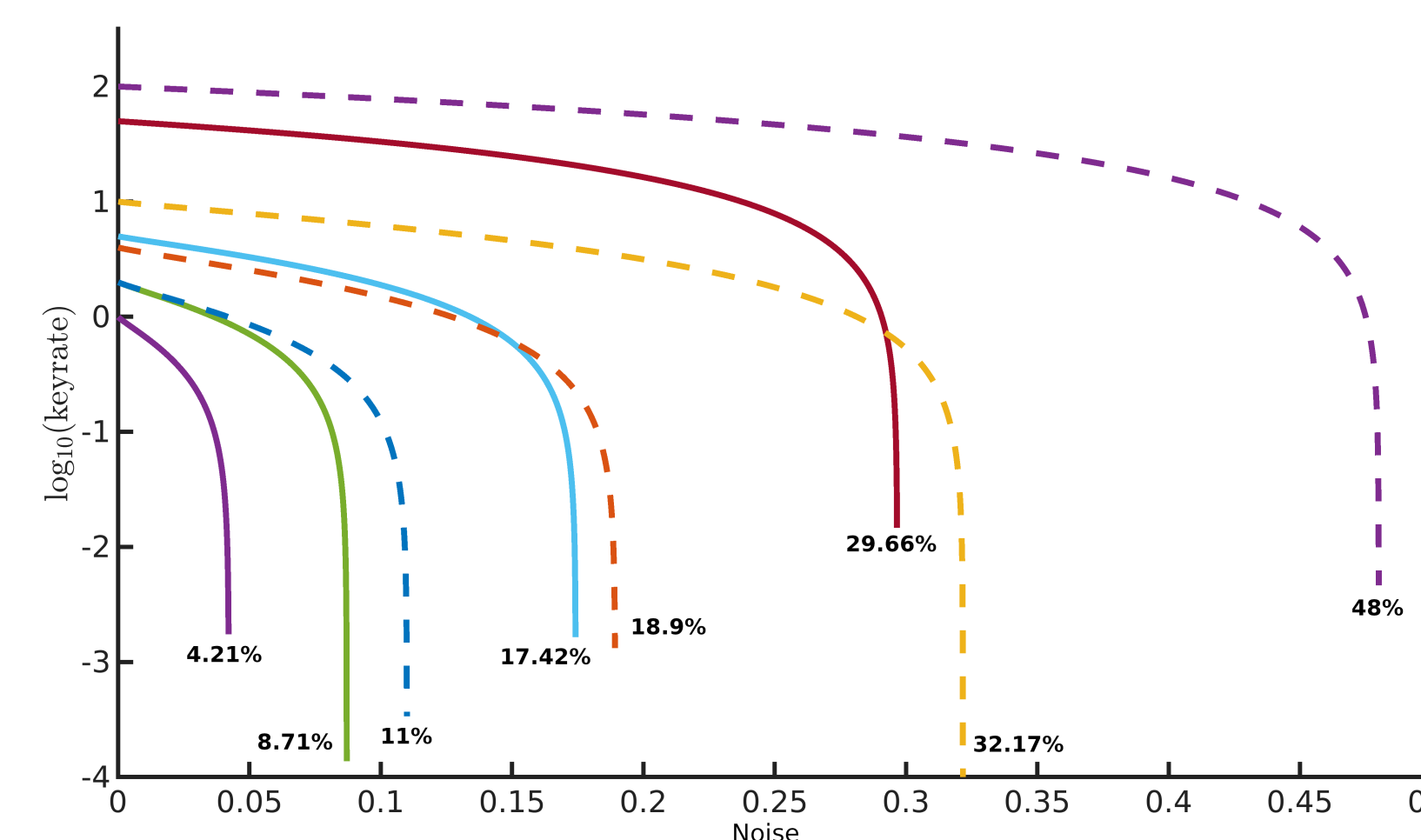


Figure 2: Figure caption

Nunc tempus venenatis facilisis. Curabitur suscipit consequat eros non porttitor. Sed a massa dolor, id ornare enim:

Treatments	Response 1	Response 2
Treatment 1	0.0003262	0.562
Treatment 2	0.0015681	0.910
Treatment 3	0.0009271	0.296

Table 1: Table caption

## Acknowledgements

Nam mollis tristique neque eu luctus. Suspendisse rutrum congue nisi sed convallis. Aenean id neque dolor. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

## Contact Information

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