

REFERENCES

- [1] C. H. Bennett and G. Brassard, “Quantum cryptography: Public key distribution and coin tossing,” in *Proceedings of IEEE International Conference on Computers, Systems and Signal Processing*, 1984, pp. 175–179.
- [2] H.-K. Lo, M. Curty, and K. Tamaki, “Secure quantum key distribution,” *Nature Photonics*, vol. 8, no. 8, pp. 595–604, 2014.
- [3] B. Bangerter, S. Talwar, R. Arefi, and K. Stewart, “Networks and devices for the 5g era,” *IEEE Communications Magazine*, vol. 52, no. 2, pp. 90–96, 2014.
- [4] S. P. et al., “Advances in quantum cryptography,” *Advances in Optics and Photonics*, vol. 12, no. 4, pp. 1012–1236, 2020.
- [5] S. Wehner, D. Elkouss, and R. Hanson, “Quantum internet: A vision for the road ahead,” *Science*, vol. 362, no. 6412, 2018.
- [6] R. A. et al., “Using quantum key distribution for securing optical networks,” in *Proceedings of the 2014 European Conference on Optical Communication*, 2014, pp. 1–3.
- [7] T. G. et al., “Implementation of continuous-variable quantum key distribution with composable and one-sided-device-independent security against coherent attacks,” *Nature Communications*, vol. 6, p. 8795, 2015.
- [8] P. W. Shor and J. Preskill, “Simple proof of security of the bb84 quantum key distribution protocol,” *Physical Review Letters*, vol. 85, no. 2, pp. 441–444, 2000.
- [9] E. Diamanti and et al., “Practical challenges in quantum key distribution,” *npj Quantum Information*, vol. 2, p. 16025, 2016.
- [10] Z. Z. et al., “Experimental demonstration of entanglement-based continuous-variable quantum key distribution,” *Physical Review Letters*, vol. 124, no. 13, p. 130501, 2020.

- [11] F. Xu, X. Ma, Q. Zhang, H.-K. Lo, and J.-W. Pan, "Secure quantum key distribution with realistic devices," *Reviews of Modern Physics*, vol. 92, no. 2, p. 025002, 2020.
- [12] V. S. et al., "The security of practical quantum key distribution," *Reviews of Modern Physics*, vol. 81, no. 3, p. 1301, 2009.
- [13] L. O. Mailloux and Z. Tang, "Hybrid classical-quantum cryptography for 6g networks," *IEEE Communications Magazine*, vol. 59, no. 5, pp. 50–56, 2021.
- [14] S. W. et al., "Practical security analysis of quantum key distribution with minor device flaws," *Physical Review X*, vol. 9, no. 4, p. 041012, 2019.
- [15] D. Coppersmith, "The data encryption standard (des) and its strength against attacks," *IBM Journal of Research and Development*, vol. 38, no. 3, pp. 243–250, 1994.
- [16] R. L. Rivest, A. Shamir, and L. Adleman, "A method for obtaining digital signatures and public-key cryptosystems," *Communications of the ACM*, vol. 21, no. 2, pp. 120–126, 1978.
- [17] D. Eastlake and P. Jones, "US Secure Hash Algorithm 1 (SHA1)," <https://datatracker.ietf.org/doc/html/rfc3174>, 2001, rFC 3174.
- [18] M. H. Adnan, Z. Ahmad Zukarnain, and N. Z. Harun, "Quantum key distribution for 5g networks: A review, state of art and future directions," *Future Internet*, vol. 14, no. 3, p. 73, 2022.
- [19] C. H. Bennett and G. Brassard, "Quantum cryptography: Public key distribution and coin tossing," in *Proceedings of IEEE International Conference on Computers, Systems and Signal Processing*, 1984, pp. 175–179.
- [20] C. H. Bennett, "Quantum cryptography using any two nonorthogonal states," *Physical Review Letters*, vol. 68, no. 21, pp. 3121–3124, 1992.
- [21] A. K. Ekert, "Quantum cryptography based on bell's theorem," *Physical Review Letters*, vol. 67, no. 6, pp. 661–663, 1991.

- [22] D. Mayers, L. Salvail, and Y. Zheng, “Quantum cryptography with imperfect apparatus,” in *Advances in Cryptology — AUSCRYPT’92*. Springer, 1996, pp. 595–605.
- [23] M. Peev *et al.*, “The secoqc quantum key distribution network in vienna,” *New Journal of Physics*, vol. 11, no. 7, p. 075001, 2009.
- [24] M. Sasaki *et al.*, “Field test of quantum key distribution in the tokyo qkd network,” *Optics Express*, vol. 19, no. 11, pp. 10 387–10 409, 2011.
- [25] R. Alléaume *et al.*, “Using quantum key distribution for cryptographic purposes: A survey,” *Theoretical Computer Science*, vol. 560, pp. 62–81, 2014.
- [26] H.-K. Lo, M. Curty, and K. Tamaki, “Secure quantum key distribution,” *Nature Photonics*, vol. 8, no. 8, pp. 595–604, 2014.
- [27] S. Wang *et al.*, “Practical quantum secure direct communication with polarization division multiplexing,” *Light: Science & Applications*, vol. 9, no. 1, pp. 1–7, 2020.
- [28] S. Pirandola *et al.*, “Advances in quantum cryptography,” *Advances in Optics and Photonics*, vol. 12, no. 4, pp. 1012–1236, 2020.
- [29] S.-K. Liao *et al.*, “Satellite-to-ground quantum key distribution,” *Nature*, vol. 549, no. 7670, pp. 43–47, 2017.
- [30] J. Yin *et al.*, “Entanglement-based secure quantum cryptography over 1,120 kilometres,” *Nature*, vol. 582, no. 7813, pp. 501–505, 2020.
- [31] V. Scarani *et al.*, “The security of practical quantum key distribution,” *Reviews of Modern Physics*, vol. 81, no. 3, pp. 1301–1350, 2009.
- [32] Z. L. Yuan *et al.*, “Resilience of gated avalanche photodiodes against bright illumination attacks in quantum cryptography,” *Applied Physics Letters*, vol. 94, no. 22, p. 041114, 2008.
- [33] V. Makarov *et al.*, “Effects of detector efficiency mismatch on security of quantum cryptosystems,” *Physical Review A*, vol. 74, no. 2, p. 022313, 2006.
- [34] A. Lamas-Linares and C. Kurtsiefer, “Breaking a quantum key distribution system through a timing side channel,” *Optics Express*, vol. 15, no. 15, pp. 9388–9393, 2007.

- [35] H. Zhang and et al., “6g wireless networks: Vision, requirements, architecture, and key technologies,” *IEEE Vehicular Technology Magazine*, vol. 14, no. 3, pp. 28–41, 2019.
- [36] I. F. Akyildiz and et al., “Moving beyond 5g with non-terrestrial networks: An integrated satellite-6g network architecture,” *IEEE Network*, vol. 34, no. 2, pp. 36–41, 2020.
- [37] L. Bariah and et al., “A prospective look: Key enabling technologies, applications and open research topics in 6g networks,” *IEEE Access*, vol. 8, pp. 174 792–174 820, 2020.
- [38] H. Viswanathan and P. E. Mogensen, “Communications in the 6g era,” *IEEE Access*, vol. 8, pp. 57 063–57 074, 2020.
- [39] I. Quantique, “Quantum cryptography solutions,” *ID Quantique Official Website*, 2024, accessed: November 2024. [Online]. Available: <https://www.idquantique.com/quantum-cryptography/solutions/>
- [40] Toshiba, “Quantum key distribution (qkd),” *Toshiba Official Website*, 2024, accessed: November 2024. [Online]. Available: <https://www.toshiba.com/qkd/>
- [41] Huawei, “Quantum key distribution solutions for high-security networks,” *Huawei Official Website*, 2024, accessed: November 2024. [Online]. Available: <https://www.huawei.com/qkd/>
- [42] QuintessenceLabs, “Quantum-based security solutions,” *QuintessenceLabs Official Website*, 2024, accessed: November 2024. [Online]. Available: <https://www.quintessencelabs.com/qkd/>
- [43] S. Telecom and L. Uplus, “Quantum security network for 5g,” *SK Telecom Official Website*, 2024, accessed: November 2024. [Online]. Available: <https://www.sktelecom.com/qsn/>
- [44] M. Technologies, “Quantum key distribution systems,” *MagiQ Official Website*, 2024, accessed: November 2024. [Online]. Available: <https://www.magiq.com/qkd/>
- [45] C. Q. C. T. (CQCT), “Micius satellite and quantum key distribution,” *CQCT Official Website*, 2024, accessed: November 2024. [Online]. Available: <https://www.cqct.com/qkd/>