Contribution ID: **439** Type: **Talk**

【3】Secure information and communication with quantum technologies

Wednesday 1 September 2021 09:00 (40 minutes)

I will give an overview of the state of the art of quantum random number generation (QRNG) and quantum key distribution (QKD) and I will present recent developments to improve the performance of these technologies. So-called self-testing QRNGs allow to certify the generated entropy in real time, which is a real benefit, knowing that a statistical analysis of the random bit string is unsatisfactory. On the QKD side, efforts are made to improve the reach and key rates on the one hand, and to reduce the cost and size with photonic integrates circuits. Another challenge is the integration of the QKD systems in a telecom environment and to share optical fibres for classical and quantum communication.

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