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## Quantum gravity meets quantum cryptography

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The AdS/CFT correspondence gives a remarkable description of a system with gravity in terms of a nongravitating, quantum mechanical theory. Importantly, the geometry of the gravitating theory is recorded into the pattern of entanglement in the dual quantum mechanical system. This gives a new way of thinking about gravitational physics in terms of entanglement, but also gives a geometrical way of reasoning about entanglement. I present some insights into aspects of entanglement and quantum information that are revealed by the AdS/CFT correspondence. In particular I show how apparently unrelated aspects of quantum cryptography can be seen to be related via this geometrical view of entanglement. I also review how these connections to cryptography give insights into AdS geometry.

## Keyword-1

AdS/CFT

## Keyword-2

quantum information

## Keyword-3

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