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# Quantum Scrambling: Interim Report

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S.A. HOPKINS

*H. H. Wills Physics Laboratory  
Tyndall Avenue, Bristol  
BS8 1TL, United Kingdom*

## **Abstract**

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Word count: TBC

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## 1 Intro

Entanglement has been the subject of intense research since its discovery in 1935. It is a central property of quantum systems and gives quantum computation its *quantum supremacy*. It is natural then, to further study this phenomenon and its dynamics, specifically the entropy of entanglement.

Entanglement entropy has seen considerable interest in the last decade, [1]

## 2 Theory

To start, it is useful to introduce the generic setup of quantum scrambling and some quantum information basics.

## 3 Approaches

## References

- [1] Stephen H. Shenker and Douglas Stanford. Black holes and the butterfly effect. *Journal of High Energy Physics*, 2014.