

Théorie conforme des champs et systèmes quantiques à plusieurs corps  
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Conformal field theory and quantum many-body physics  
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## **Entanglement of skeletal regions**

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The entanglement entropy encodes key properties of quantum many-body systems. It is usually calculated for a subregion of finite volume (or area in 2D) with characteristic size being taken far larger than the microscopic length scale of the system. In this talk, I will discuss entanglement properties of subsystems possessing no volume, dubbed « skeletal ».

I will show that skeletal entanglement displays new behavior compared to its bulk counterpart and leads to distinct universal quantities. We discovered signatures including skeletal topological entanglement entropy, novel bulk and boundary cusp terms, and strict area-law scaling for metals. I will focus on quantum systems with emergent Lorentz and scale invariance, with an incursion into non-relativistic Lifshitz field theories.