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## Holographic topological entanglement entropy and ground state degeneracy

*Thursday, 16 April 2015 12:20 (30 minutes)*

Topological entanglement entropy, a measure of the long-ranged entanglement, is related to the degeneracy of the ground state on a higher genus surface. We construct a class of holographic models where such relation is similar to the one exhibited by Chern-Simons theory in a certain large  $N$  limit. Both the non-vanishing topological entanglement entropy and the ground state degeneracy in these holographic models are consequences of the topological Gauss-Bonnet term in the dual gravitational description.

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**Session Classification:** Morning session