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**Topological order and long range quantum entanglements**

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What is the origin of fractional charges and fractional statistics in FQH states? What is the origin of light? It turns out that long range entanglement is the reason why fractional charges and fractional statistics can appear FQH state. Long range entanglement is also the reason why waves that satisfy Maxwell equation can appear in some qubit (spin) systems. Long range entanglement also lead to a deeper understanding of gapped quantum phases. It allows us to obtain a classification of interacting topological insulators/superconductors, as well as the much more general symmetry protected topological phases, and intrinsic topological phases.