

Abstract Submitted
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On the effective theory of quantum Hall edge JIMMY HUTASOIT, OLEKSANDR GAMAYUN, VADIM CHEIANOV, Lorentz Institute, Leiden University — The edge of a quantum Hall state can be described by a chiral conformal field theory (CFT). As this is an effective theory, one must also consider deformations to the chiral CFT. I will revisit the formulation of perturbation theory in the presence of such deformations by considering two examples that exhibit exact solution. An ubiquitous feature of such an effective edge theory is that it exhibits emergent symmetries that were not parts of the underlying Hamiltonian. As a result, electron operators constructed out of the effective degrees of freedom form multiplets transforming under the emergent symmetry. Even though the deformations mentioned above can break the emergent symmetry, it is interesting to explicitly construct edge theories with exactly one electron operator. This is related to an open problem in classifying non-trivial CFT simple current with trivial tensor structure.

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