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Black Hole Thermodynamics From 2-Dimensional Conformal Field Theory in The Near Horizon Limit LEO RODRIGUEZ, VINCENT RODGERS, TUNA YILDIRIM, University of Iowa, DIFFEOMORPHISMS AND GEOMETRY TEAM — Based on Robinson and Wilczek's method for computing Hawking flux via the cancellation of the gravitational/chiral anomaly we construct a Liouville theory in the near horizon limit of a 4-dimensional black hole. We show a direct relationship between quantum fluctuations of the 4-dimensional black hole and fundamental topological quantities of the quantum Liouville theory. A centrally extended $Diff(S^1)$ sub-algebra is computed for the effective near horizon theory and is compared to the derivation of the Bekenstein-Hawking entropy form via symmetries and the Cardy formula.

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