

Abstract Submitted  
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**Neutral mode heat transport and fractional quantum Hall shot noise** SO TAKEI, University of Maryland College Park, BERND ROSENOW, University of Leipzig — We study nonequilibrium edge state transport in the fractional quantum Hall (FQH) regime for states with a counter-propagation neutral mode. Focusing on the filling fraction of  $2/3$ , we consider a setup in which the neutral mode is heated by a hot spot, and where heat transported by the neutral mode causes a temperature difference between the upper and lower edges in a Hall bar. This temperature difference is probed by the excess noise it causes for scattering across a quantum point contact (QPC). We find that the excess noise in the QPC provides evidence for counter-propagating neutral modes, and we calculate its dependence on both the temperature difference between the edges and on source drain bias. We generalize our results to the non-abelian Moore-Read quantum Hall state at filling fraction  $5/2$ .

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