Abstract Submitted
for the MAR14 Meeting of
The American Physical Society

Optical Emission from quantum phases of the second Landau level
ANTONIO LEVY, Columbia University, URSULA WURSTBAUER, Technische Universitat Munchen, ARON PINCZUK, Columbia University, JOHN WATSON, Purdue University, SUMIT MONDAL, Purdue, MICHAEL MANFRA, Purdue University, KEN WEST, LOREN PFEIFFER, Princeton University, COLUMBIA UNIVERSITY TEAM, PURDUE UNVIERSITY COLLABORATION, PRINCETON UNIVERSITY COLLABORATION — Optical emission across the host semiconductor bandgap has proven a powerful tool in examining the properties fractional quantum Hall sates (fqhs). While the luminescence of fqhs in the first (N=0) Landau Level has been extensively studied, there are significantly fewer studies of the optical emission in the N=1 Landau Level. We report studies of luminescence in the filling factor range 4>nu>2 N=1 Landau level. The marked dependence on filling factor suggests that optical emission is here linked to competing quantum phases. A comparison of luminescence in a range about ν =7/3 with extensively studied optical emission near ν =1/3 creates venues to explore the competing quantum phases of the second Landau levels.

Antonio Levy
Columbia University

Date submitted: 15 Nov 2013 Electronic form version 1.4