Abstract Submitted
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Quantum Hall Bilayer in a Periodic Potential[1] GANPATHY MURTHY, University of Kentucky, JIANMIN SUN, HERBERT FERTIG, Indiana University — Disorder is known to be central to the $\nu = 1$ bilayer[1,2]. We study the bilayer $\nu = 1$ system in a periodic potential, which mimics the nonperturbative effects of disorder by creating frozen-in Hall currents. The coupling to the potential is through the Pontryagin density of the pseudospin. We find the spinwave modes and quantize the theory to account for the effects of quantum fluctuations. 1. H. A. Fertig and G. Murthy, Phys. Rev. Lett. **95**, 156802 (2005). 2. H. A. Fertig and G. Murthy, Sol. St. Commun. **140**, 83 (2006).

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