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**Bilayer Exciton Condensates**

**Allan MacDonald**  
**Department of Physics and Center for Complex Quantum Systems**  
**The University of Texas at Austin**  
**Austin, TX, U.S.A.**

Spatially indirect (dipolar) exciton condensates are ordered states with spontaneous coherence between electrons in two different layers. Condensation of dipolar excitons has until recently been most conclusively demonstrated in the quantum Hall regime, where it is signaled by a number of surprising transport anomalies. I will briefly review some highlights of quantum Hall dipolar exciton condensates, commenting in particular on knowledge gained from recent experimental studies of graphene bilayer systems in a strong magnetic field.

I will also discuss the recent observation [1] of dipolar condensates in double bilayer graphene in the absence of a magnetic field, highlighting the unusual connection [2] between electron-hole pairing channels and Dirac point Berry phases in the isolated bilayers.

[1] “Strongly enhanced tunneling at total charge neutrality in double bilayer-graphene-WSe<sub>2</sub> heterostructures”, G. William Burg *et al.*, Phys. Rev. Lett. **120**, 177702 (2018) .

[2] “Spatially-indirect Exciton Condensate Phases in Double Bilayer Graphene”, Jung-Jung Su and A.H. MacDonald, Phys. Rev. B **95**, 045416 (2017).