Abstract Submitted
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Exciton condensation in one dimension[1] DAVID ABERGEL, ADRIAN KANTIAN, NORDITA — We show the existence of a stable bilayer exciton condensate in one dimension, which demonstrates both true long-range order and non-negligible pairing amplitude. The condensate is stabilized by a finite inter-wire tunneling between two parallel quasi-1D wires, which we propose as the system in which to realize the condensate. Combining numerical DMRG, mean-field approaches, and bosonization to go beyond perturbation theory, we analyze experiments which will demonstrate the off-diagonal long-range order and verify the associated non-negligible pairing amplitude of the exciton condensate.

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