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Title: Topological Heavy fermion theory of twisted bilayer graphene and Fractional Chern insulators in MoTe₂ and graphene multilayers

Abstract: We present new progress in the topological heavy fermion model of twisted bilayer graphene and in the fractional Chern insulators in MoTe₂ and pentalayer graphene. In twisted bilayer we show how to efficiently incorporate strain and relaxation into the calculation of many body ground states; this leads to a natural explanation of the IKS state at integer filling and of the Kondo state at noninteger filling and of the stronger insulators on the electron doped side. For fractional Chern insulators we show that a correct calculation of the many body spectrum can explain the main puzzle of the field- the missing fractional $1/3$ state and the appearance of only the $2/3$ state