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# 【146】Fragile topology and flat-band superconductivity

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Recent theoretical works unveiled that crystalline symmetries can stabilize topologically fragile Bloch bands that challenge our very notion of topology: one can trivialize these bands through the addition of trivial Bloch bands. Here, we show via auxiliary-field Monte Carlo simulations how fragile topology enhances the superfluid weight and hence the superconducting critical temperature. This feature is particularly relevant in flat-band systems where the conventional contribution to the superfluid weight vanishes and might explain the high transition temperature observed in magic-angle twisted bilayer graphene.

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