

The manuscript analyzes different broken symmetry states in a narrow band in twisted MoS₂. The results are interesting, and deserve publication in some form. In the following, some topics whose consideration will enhance the clarity and interest of the study are highlighted:

- The manuscript addresses the physics of one among many, flat bands near the valence band edge of twisted MoS₂. The existence of other bands, and the fact that the study concerns only the valence band needs to be mentioned.
- The manuscript uses a tight binding parametrization supposedly based on calculations of the Wannier functions for the band under consideration. Refs. 41, 46, and 47 do not carry out a full calculation of the Wannier functions associated to this band. These references only mention that the symmetries of the band are well described by effective s orbitals centered at the edges of the unit cell. The parametrization of the band may need more than nearest neighbor hopping elements. In addition, these references do not mention the vertical location of the Wannier functions. The value of the electric moment in the ferroelectric phase discussed in the manuscript depends on this unknown vertical shift. This point is also worth mentioning in the manuscript. Another unknown parameter is the extension of the Wannier functions, which is needed in order to estimate the strength of the interaction, see below
- The possibility of observing the phenomena described in the manuscript depends on the actual values of the magnetic moments and electric dipoles discussed in it. An order of magnitude estimate of these values will help the interested reader to understand the relevance of the results. Along the same lines, there is not discussion in the manuscript of the strength of the Rashba spin-orbit coupling.
- Related to the previous point, the presence of nearby bands with different characteristics might influence the results, if the parameters U and V where comparable to the separation between bands.
- The manuscript studies only one filling, $\nu=1$. It may happen that the case $\nu=3$ is similar, because of an approximate electron-hole symmetry, although this is not discussed. It would be interesting an analysis of the other commensurate filling, $\nu=2$.
- The discussion of the effects of the substrate is sketchy. The perturbation induced by the substrate is only relevant when the lattices are aligned. There is no description of the type of potential induced by the substrate, and its strength is also not addressed.