## Annual Meeting of the Swiss Physical Society 2024



Contribution ID: 145

Type: Poster

## [143] Symmetry broken phases of field biased Bernal bilayer graphene

Tuesday 10 September 2024 19:45 (1 minute)

Using Hartree-Fock calculations we explored the possibility of spin,valley and translational symmetry breaking in Bernal bilayer graphene. Our aim is to explain the phases present near the van Hove singularity that arises in the band structure when an out-of-plane electric field is applied. A displacement field versus carrier density phase diagram was obtained in good agreement with experimental data. A slight tendency towards a valley coherence wave was found.

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Session Classification: Poster Session

Track Classification: Condensed Matter Physics (KOND)