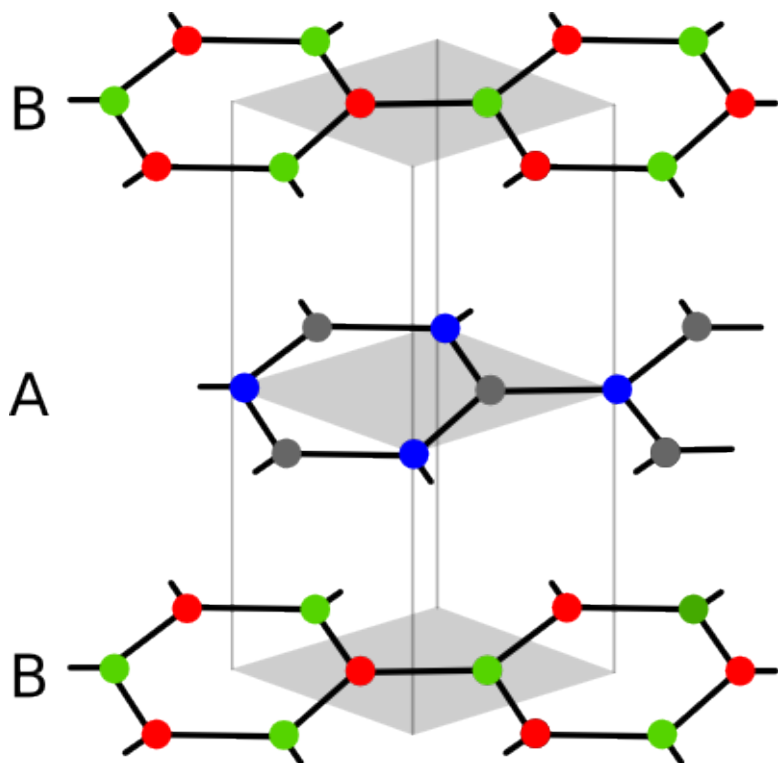


Trilayer graphene

ABA-stacking

no spatial-inversion symmetry

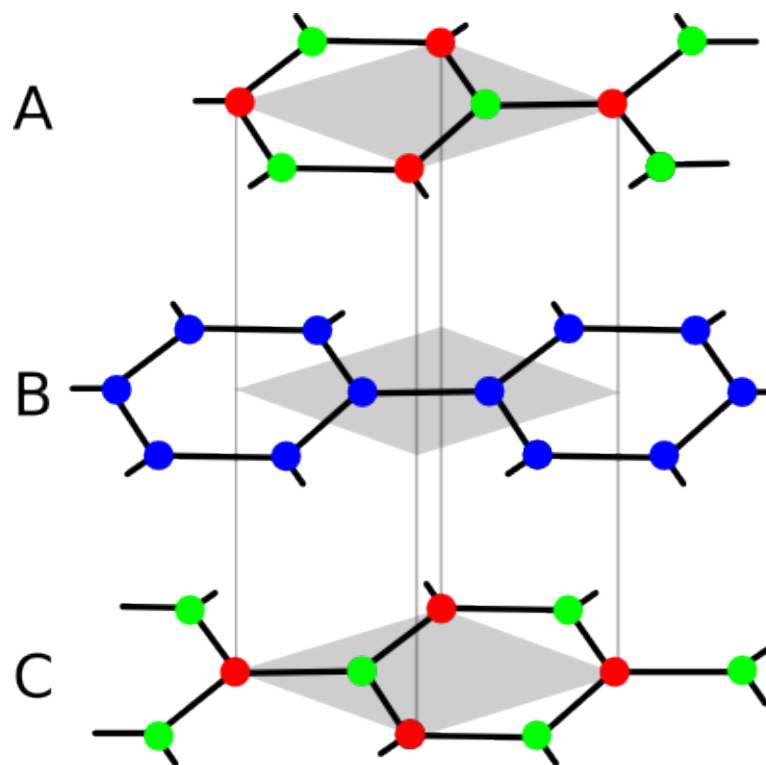
$E = -457.239 \text{ Ry}$



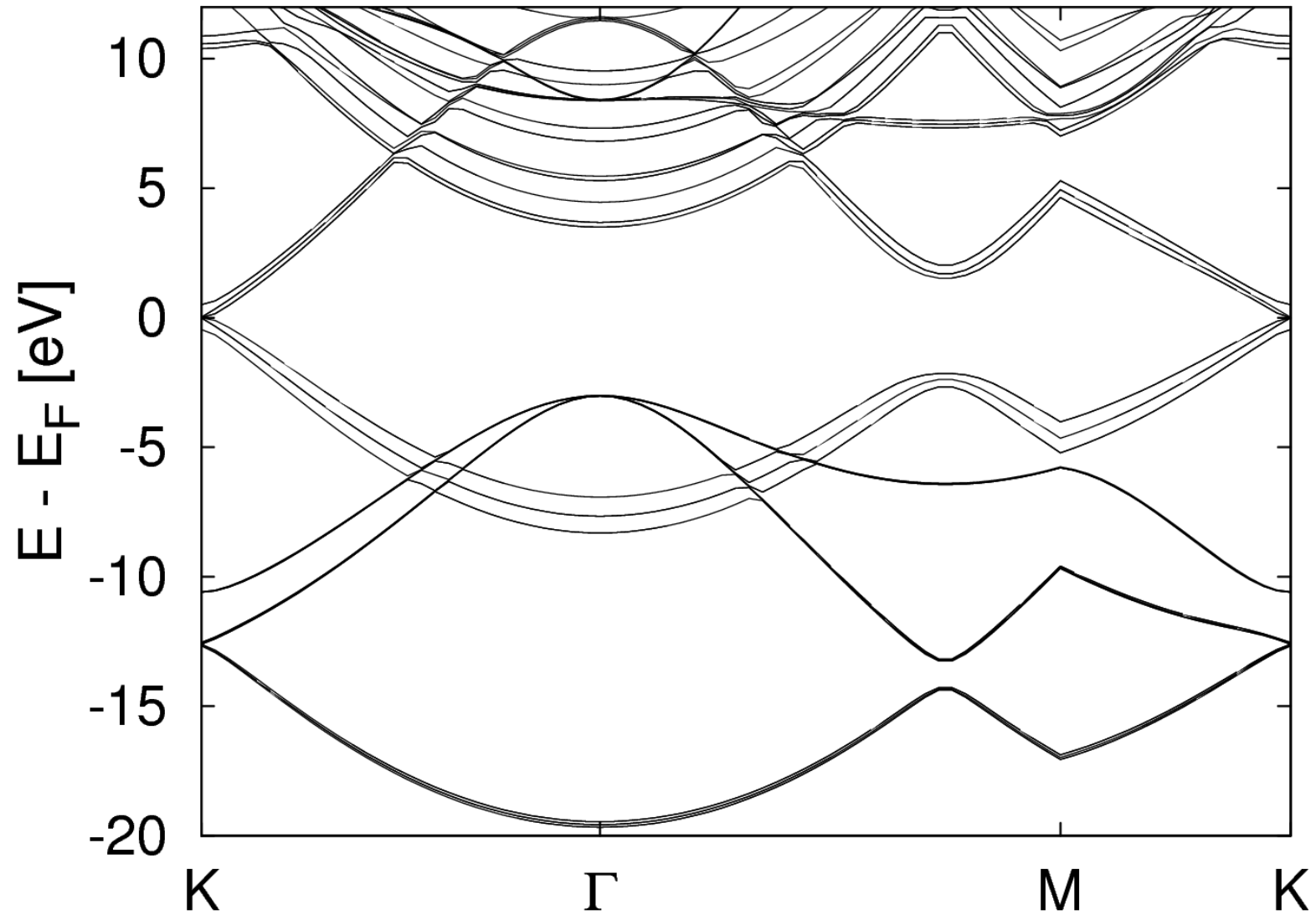
ABC-stacking

with spatial-inversion symmetry

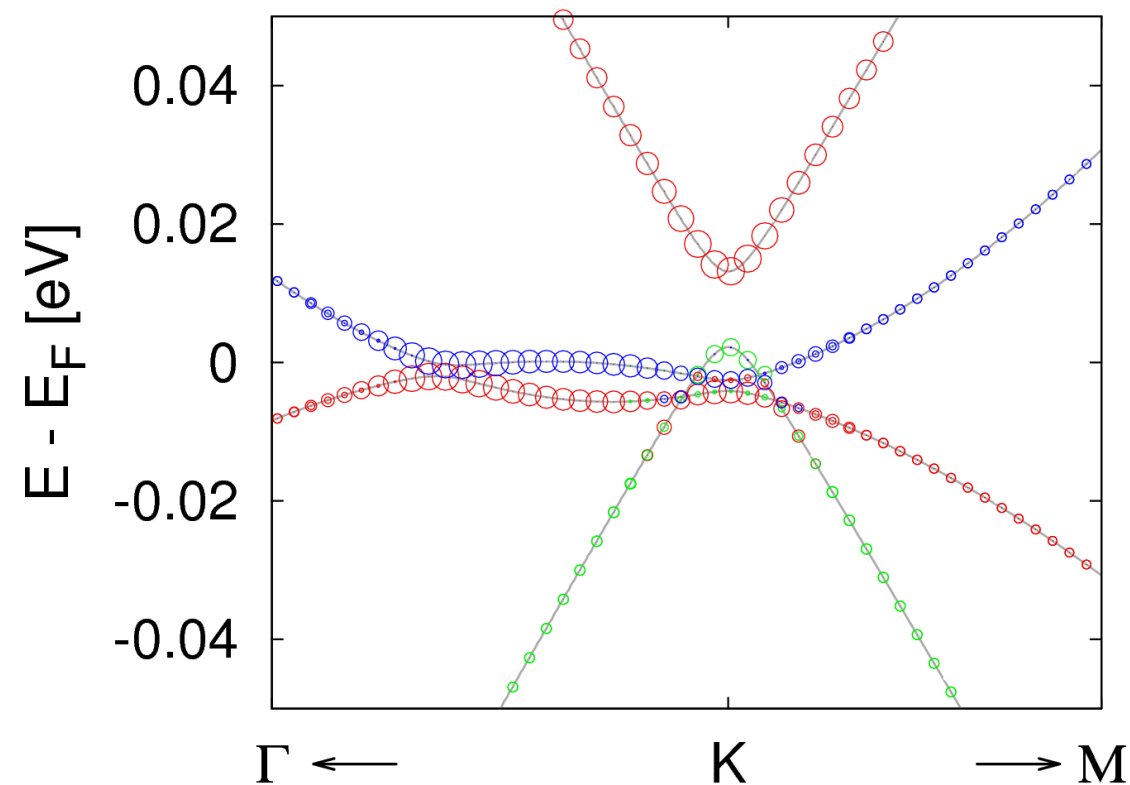
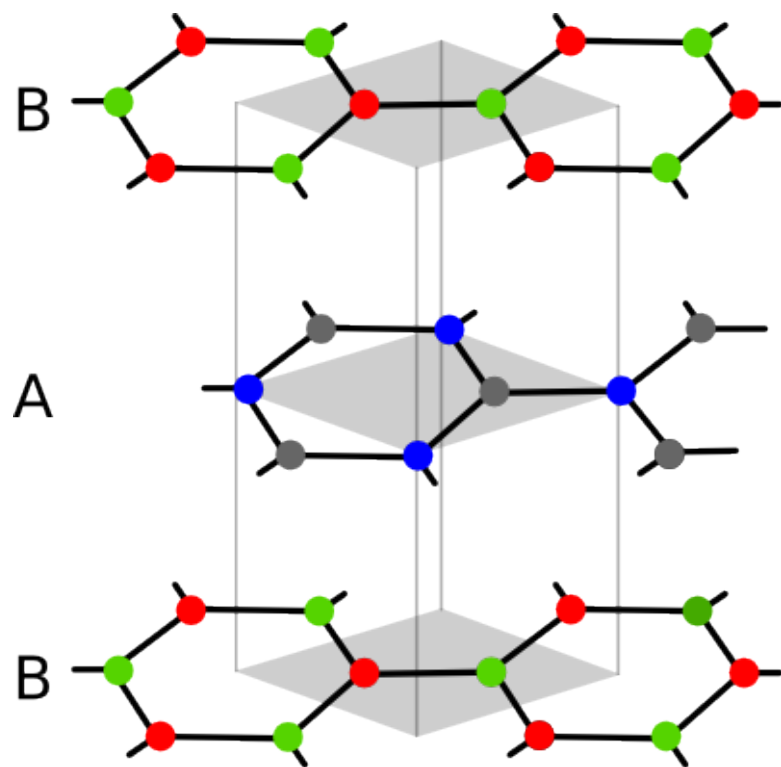
$E = -457.238 \text{ Ry}$



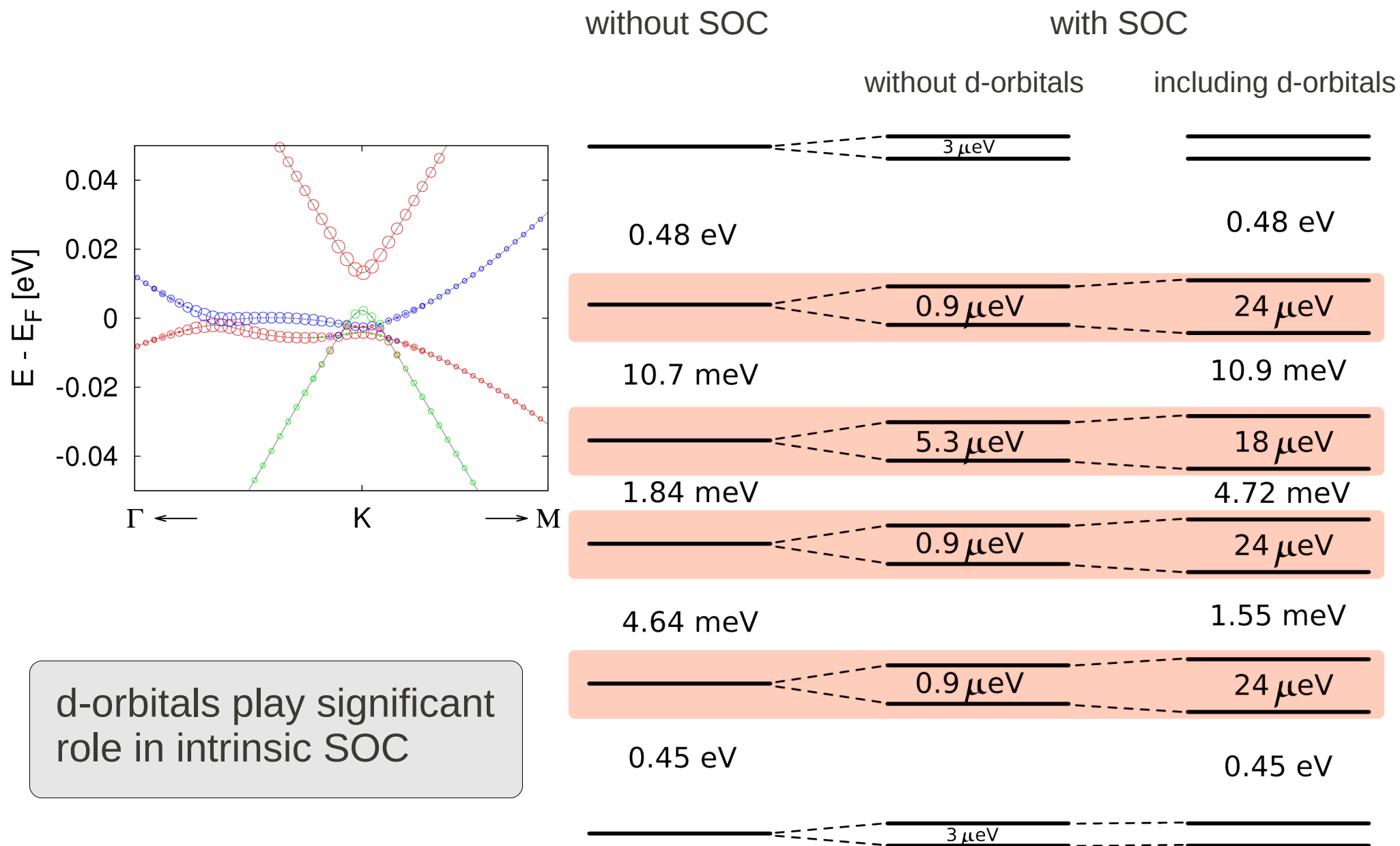
Band structure of ABA-trilayer graphene



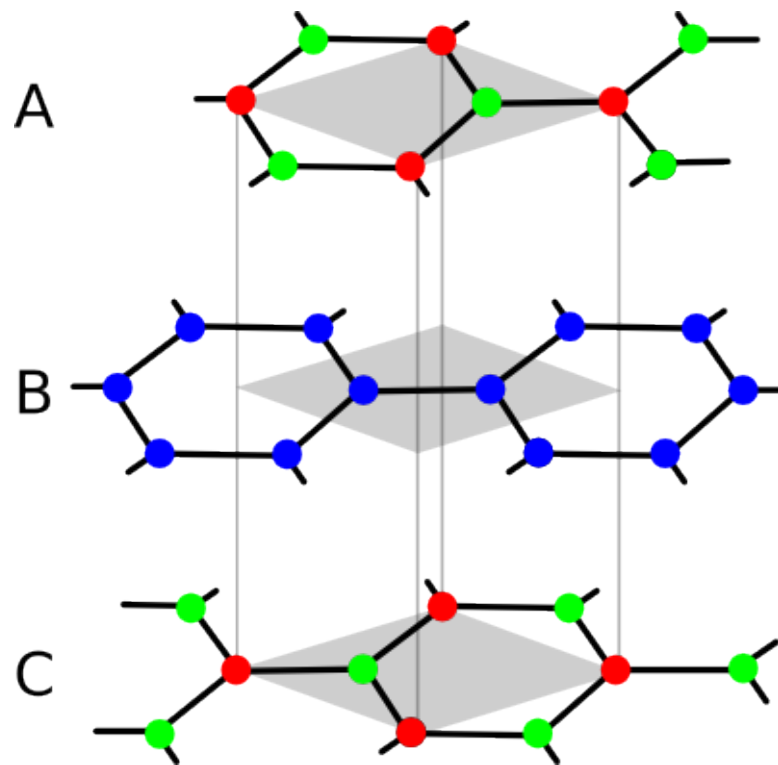
Band structure of ABA-trilayer graphene



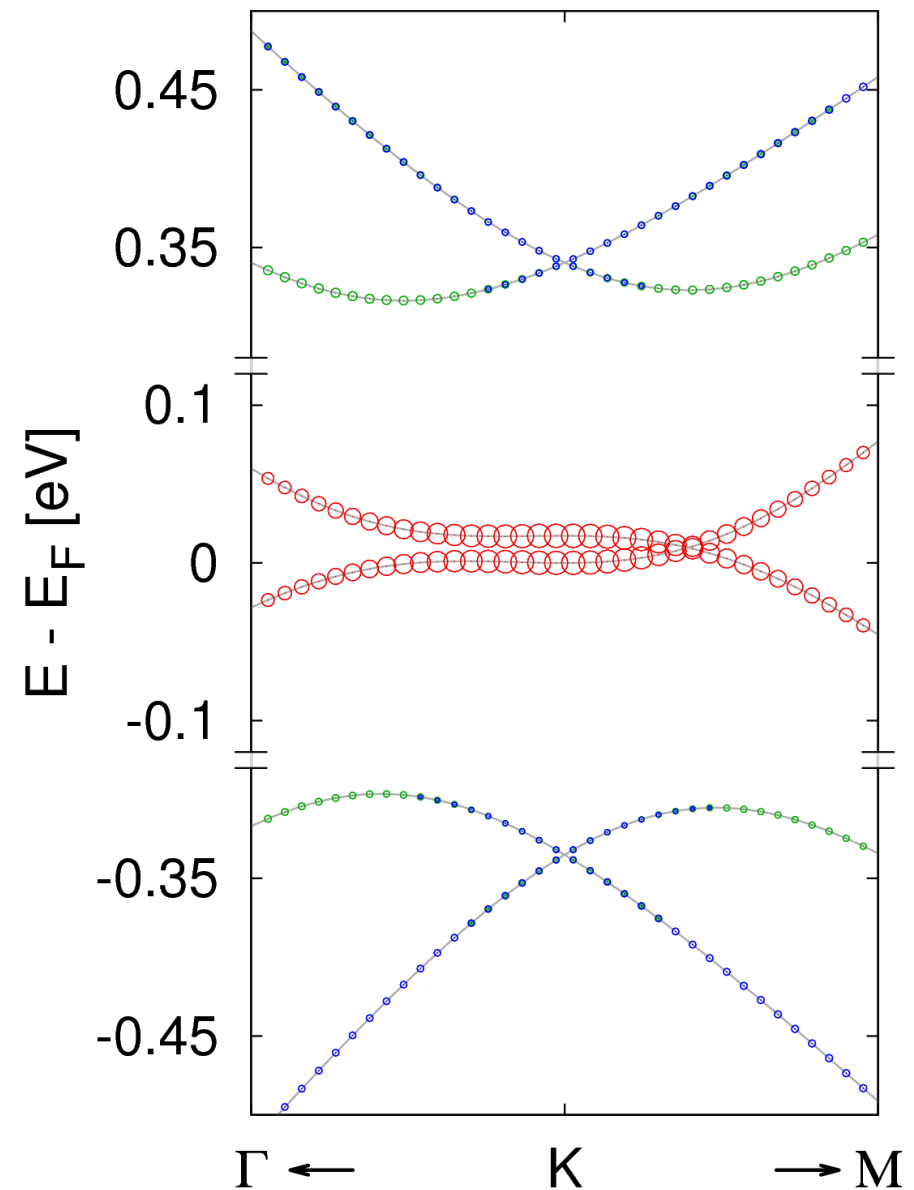
ABA-trilayer SOC splitting at K-point



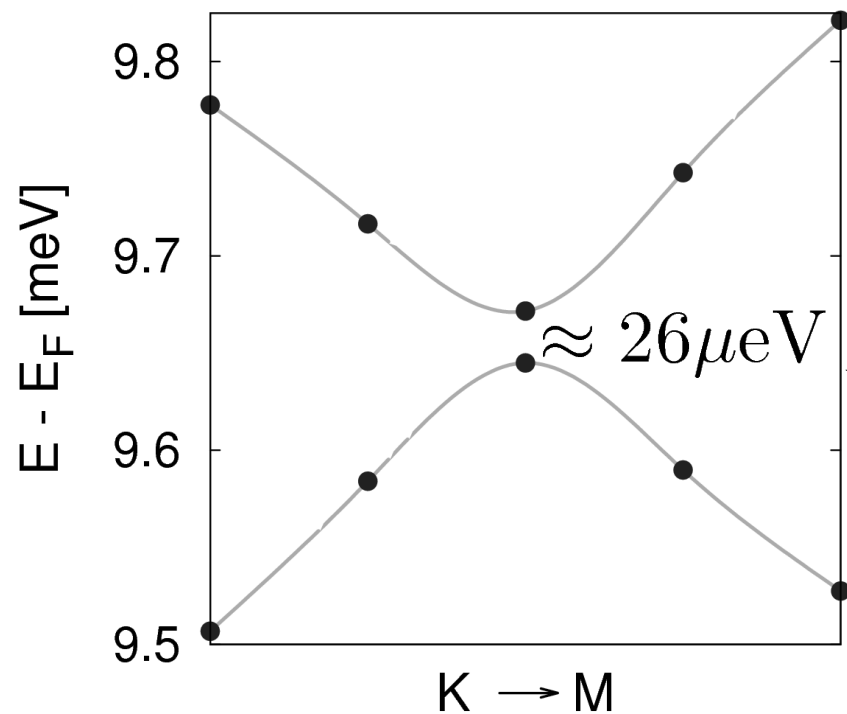
Band structure of ABC-trilayer graphene



Bands are spin degenerated
due to Kramers degeneracy

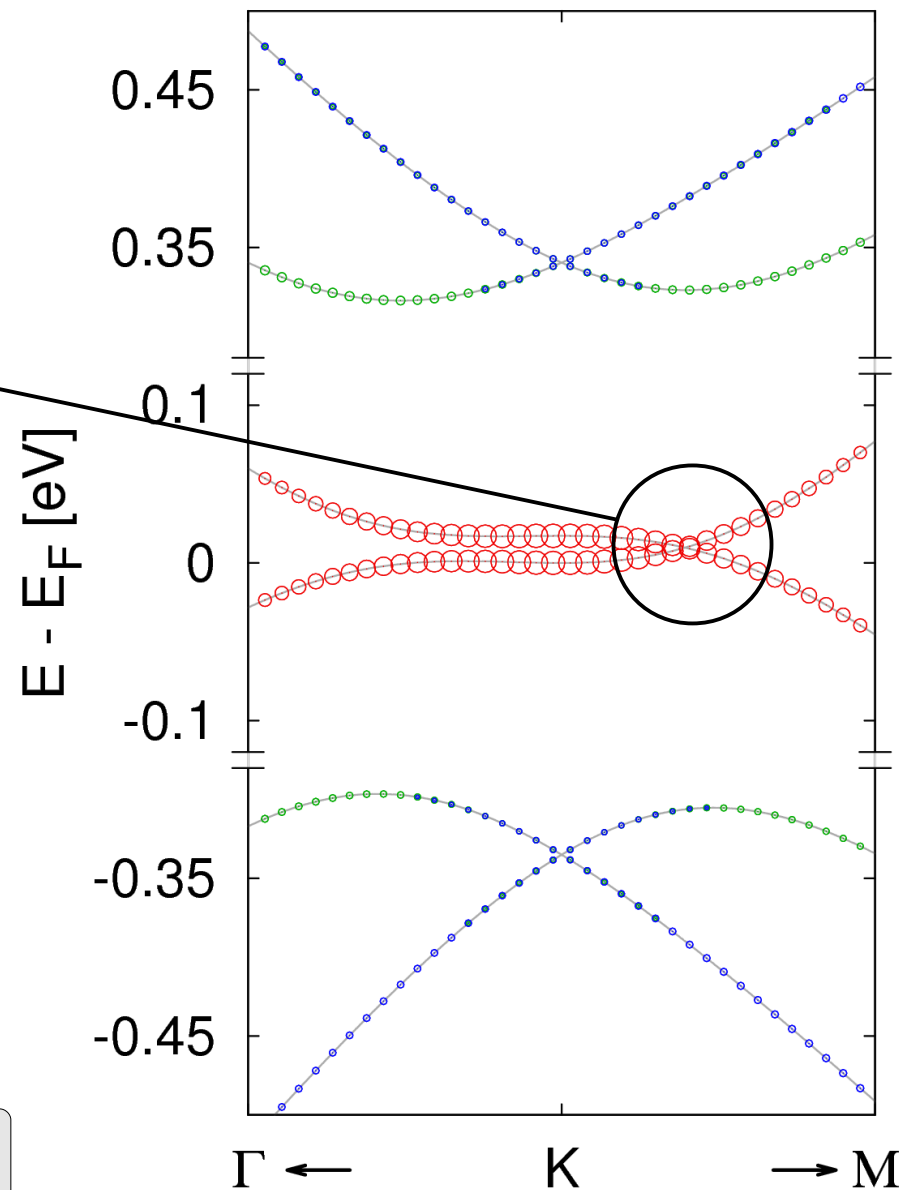


d-orbitals in ABC-trilayer graphene



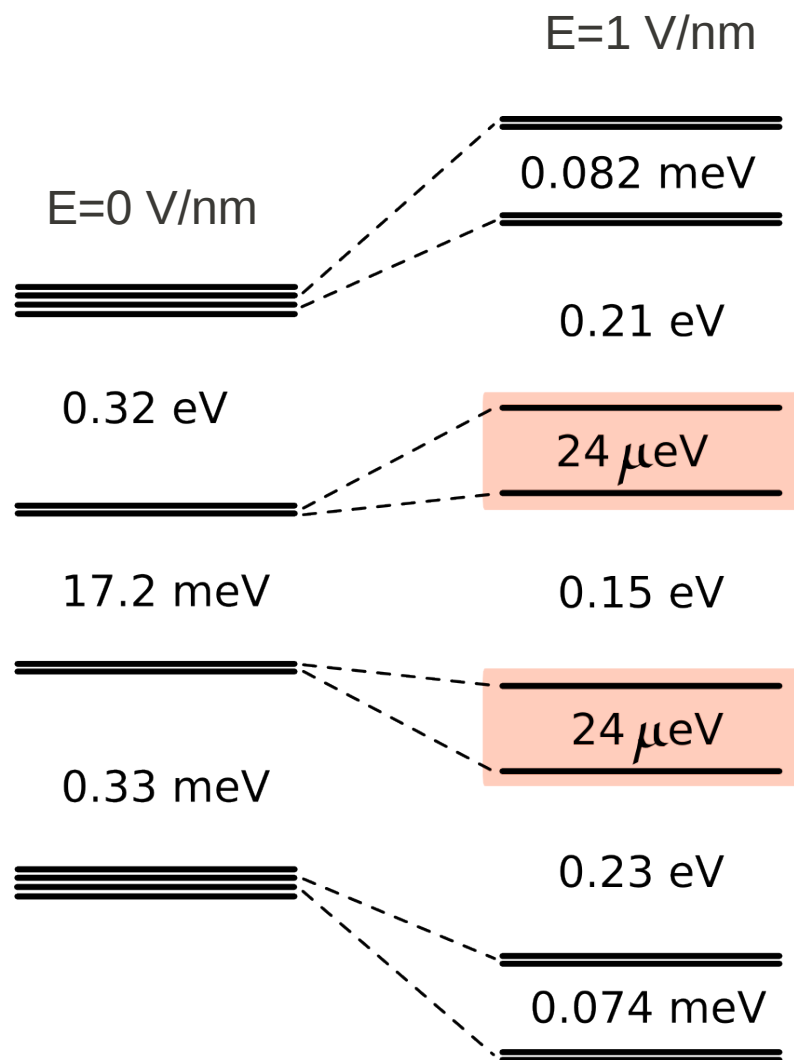
Bands are spin degenerated
due to Kramers degeneracy

without d-orbitals the gap is closed



ABC-trilayer in electric field of 1V/nm

spectrum at K-point



prominent contribution of d-orbitals to bands spin-splitting

