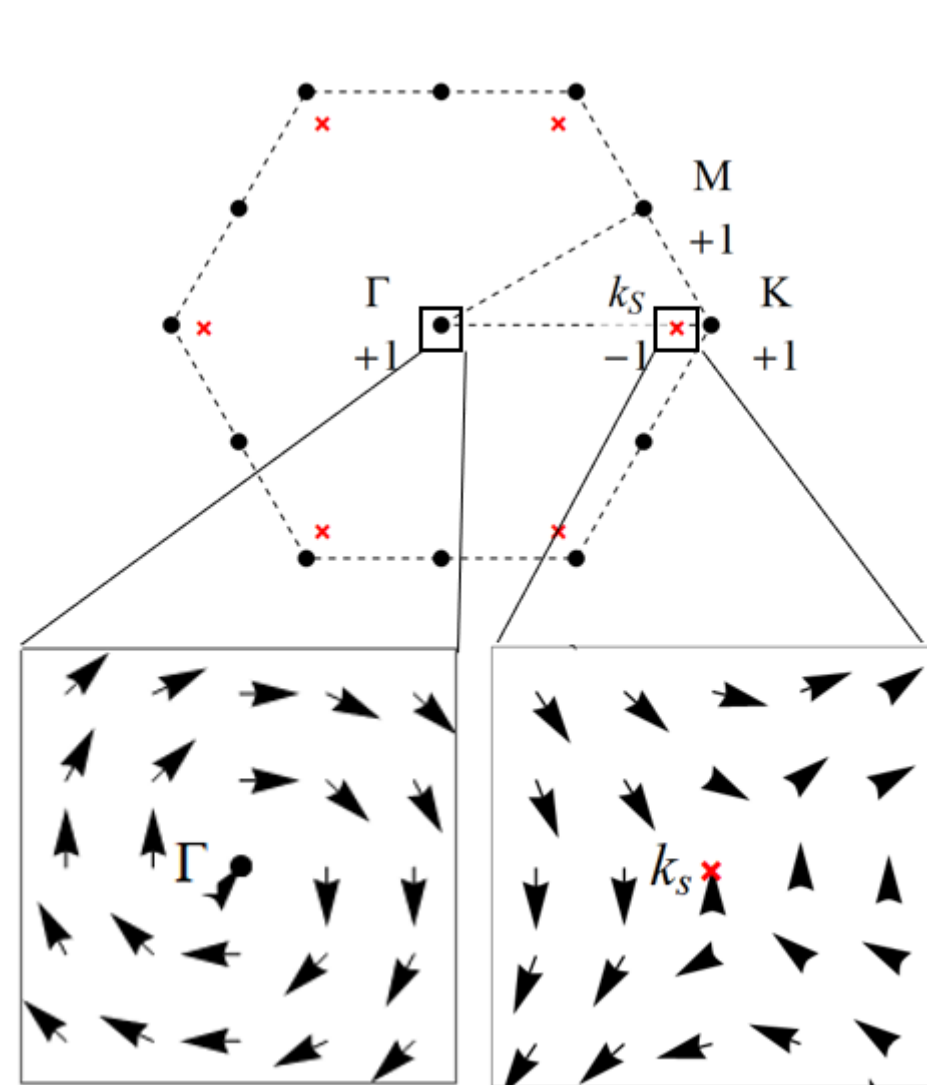


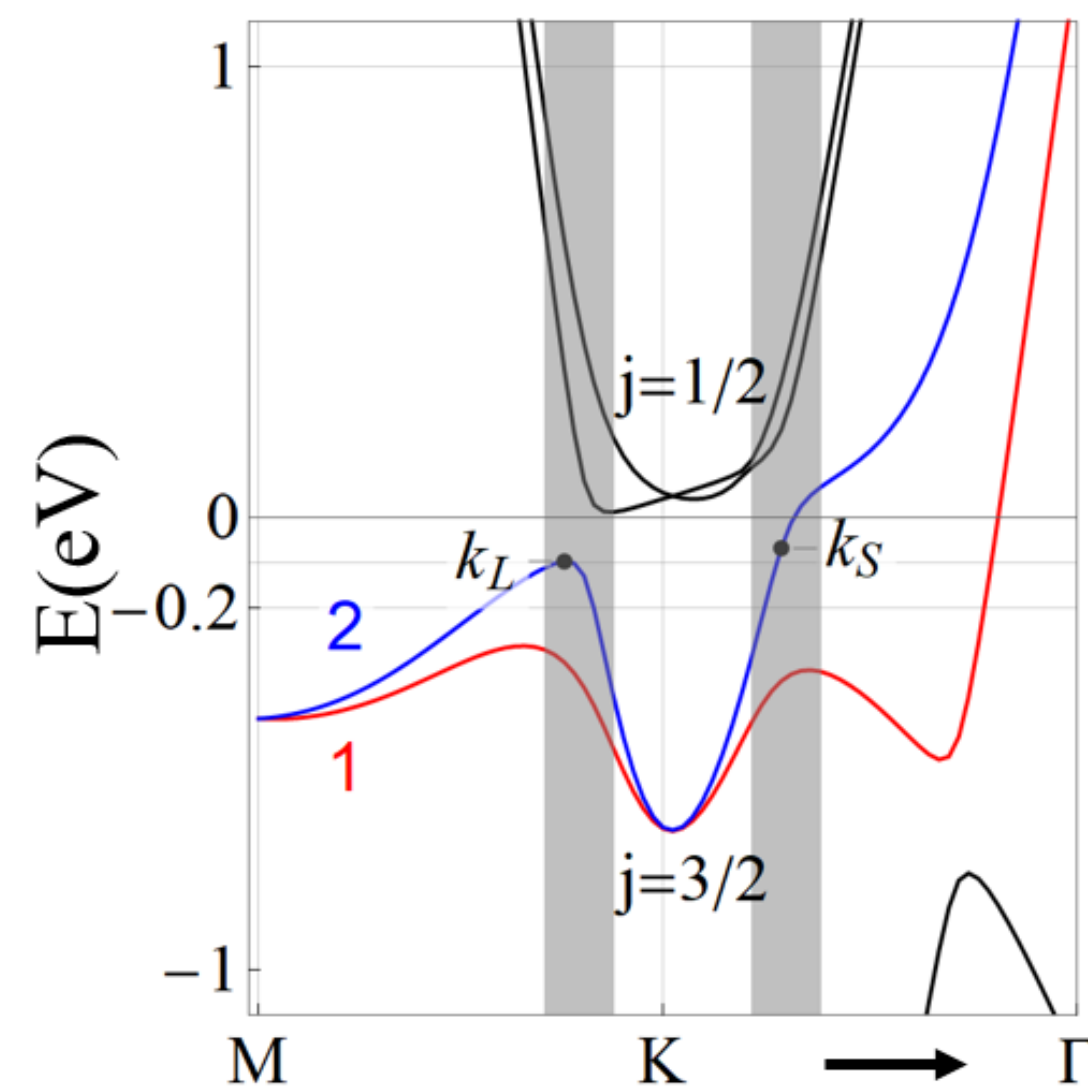
Spin Anti-Vortex in 2D Pb film



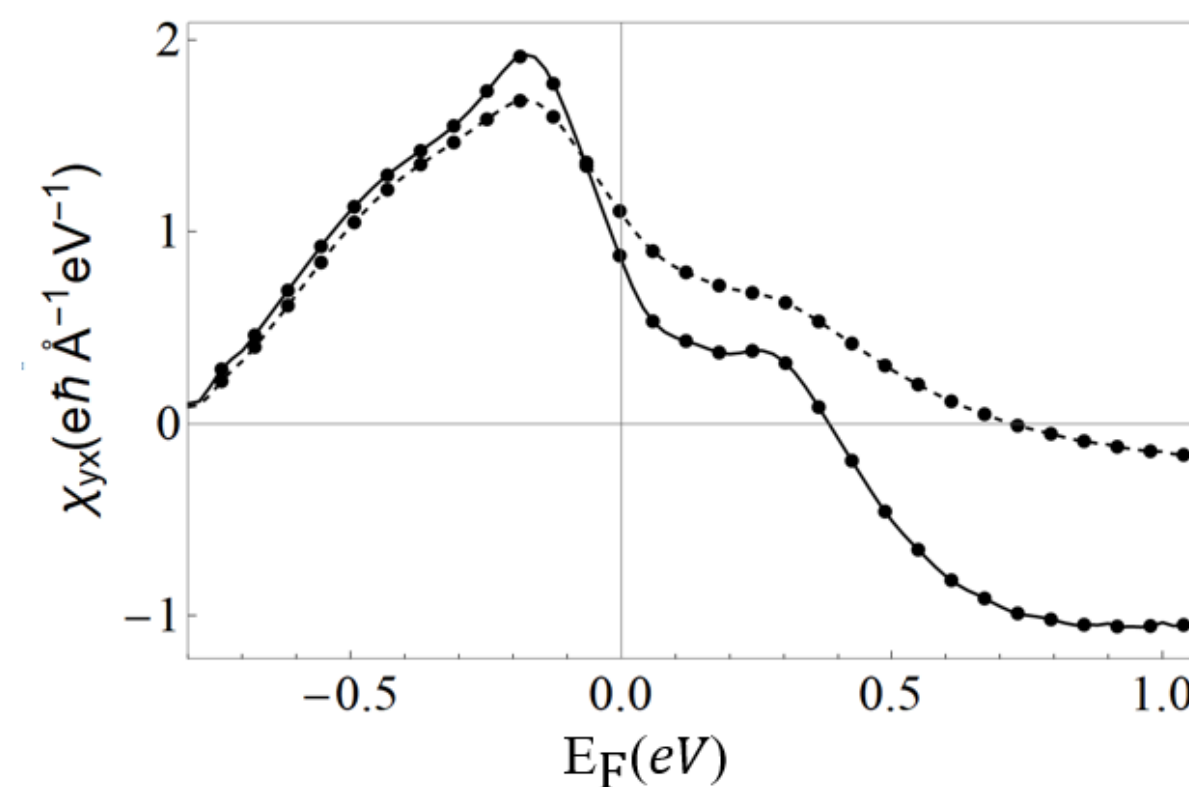
- Spin anti-vortex is a new kind of spin texture that results from Poincare-Hopf theorem and thus is topologically stable.
- Spin anti-vortex exists in 2D Pb films on SiC substrates and has strong influence on spin transport in this system.



Spin vortex and anti-vortex



Band dispersion of 2D Pb film. k_S shows the location of spin anti-vortex



Spin anti-vortex leads to a peak in $\frac{\partial \chi}{\partial E_F}$ around $E_F \approx -0.1 \text{ eV}$, where χ represents current-induced spin polarization.

2D Pb films with strong spin-orbit coupling provide an appealing platform to explore spin transport for spintronic applications.