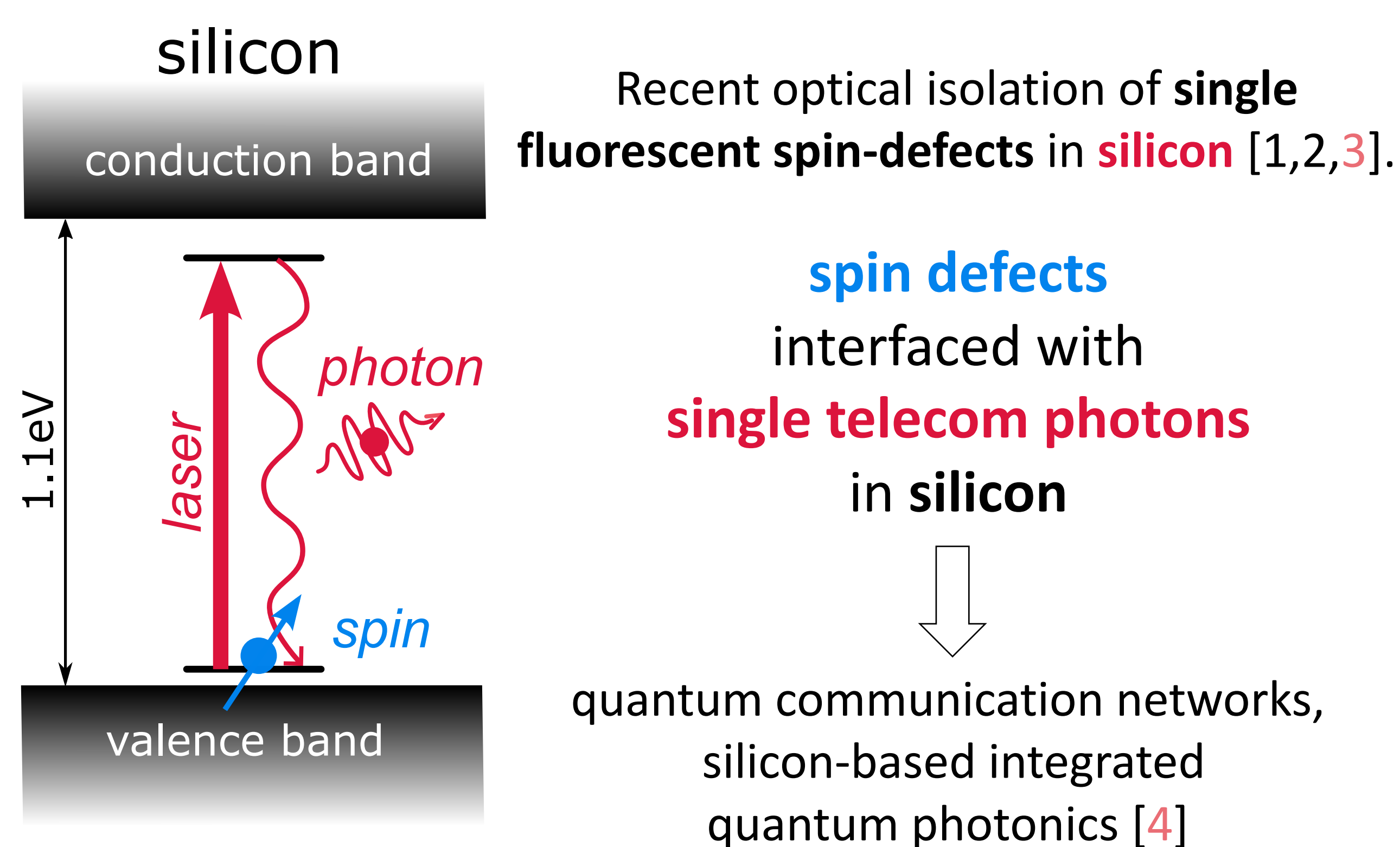
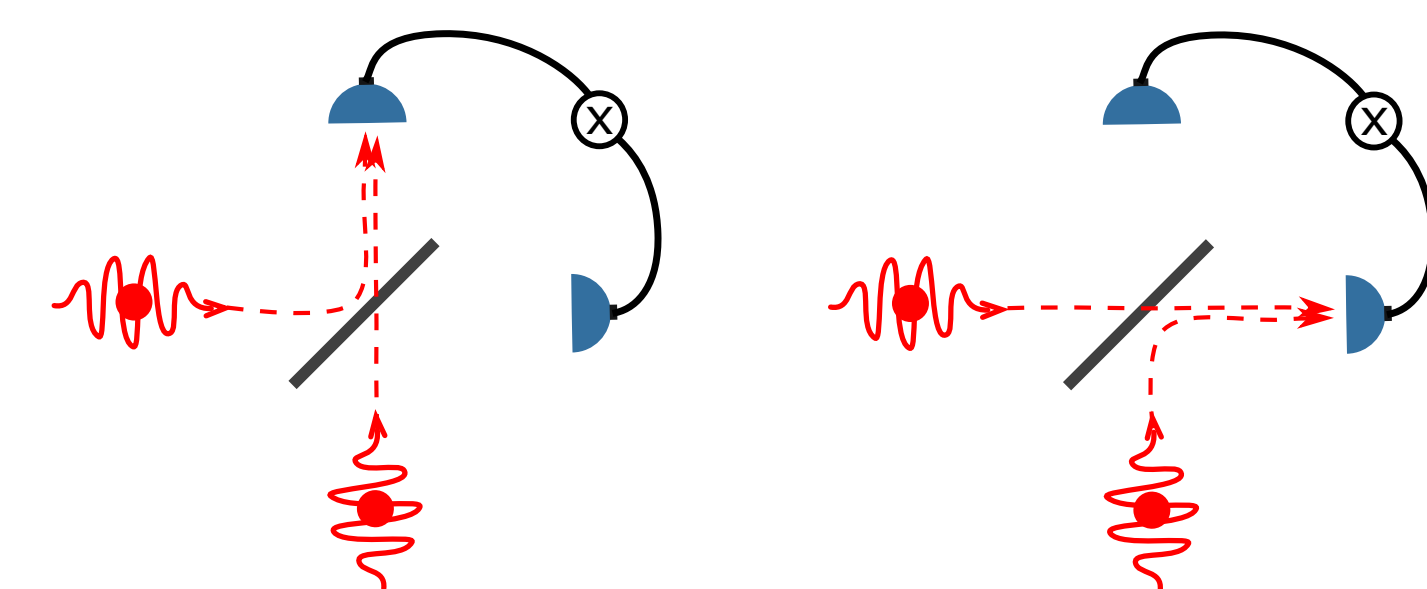


Context



Current challenge

Emission of true indistinguishable single photons



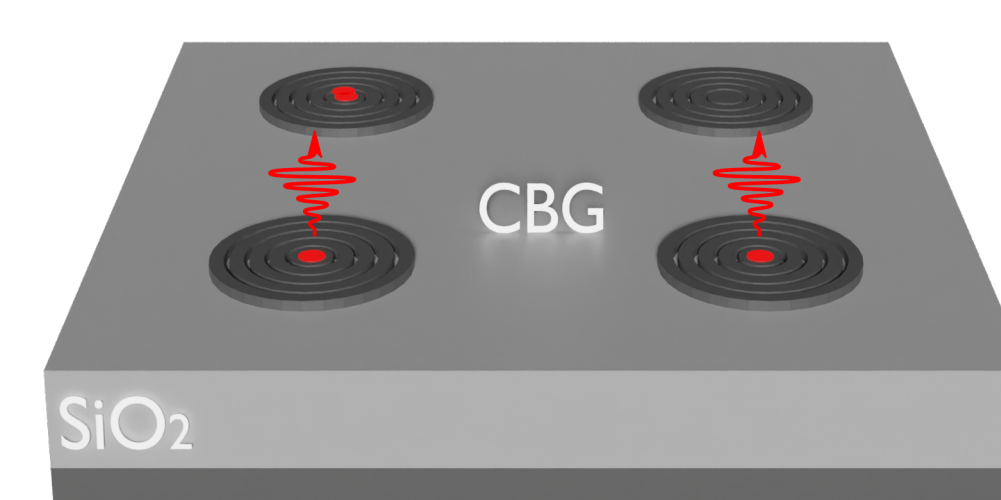
- dynamical spectral fluctuation for each color center
- static spectral difference between defects



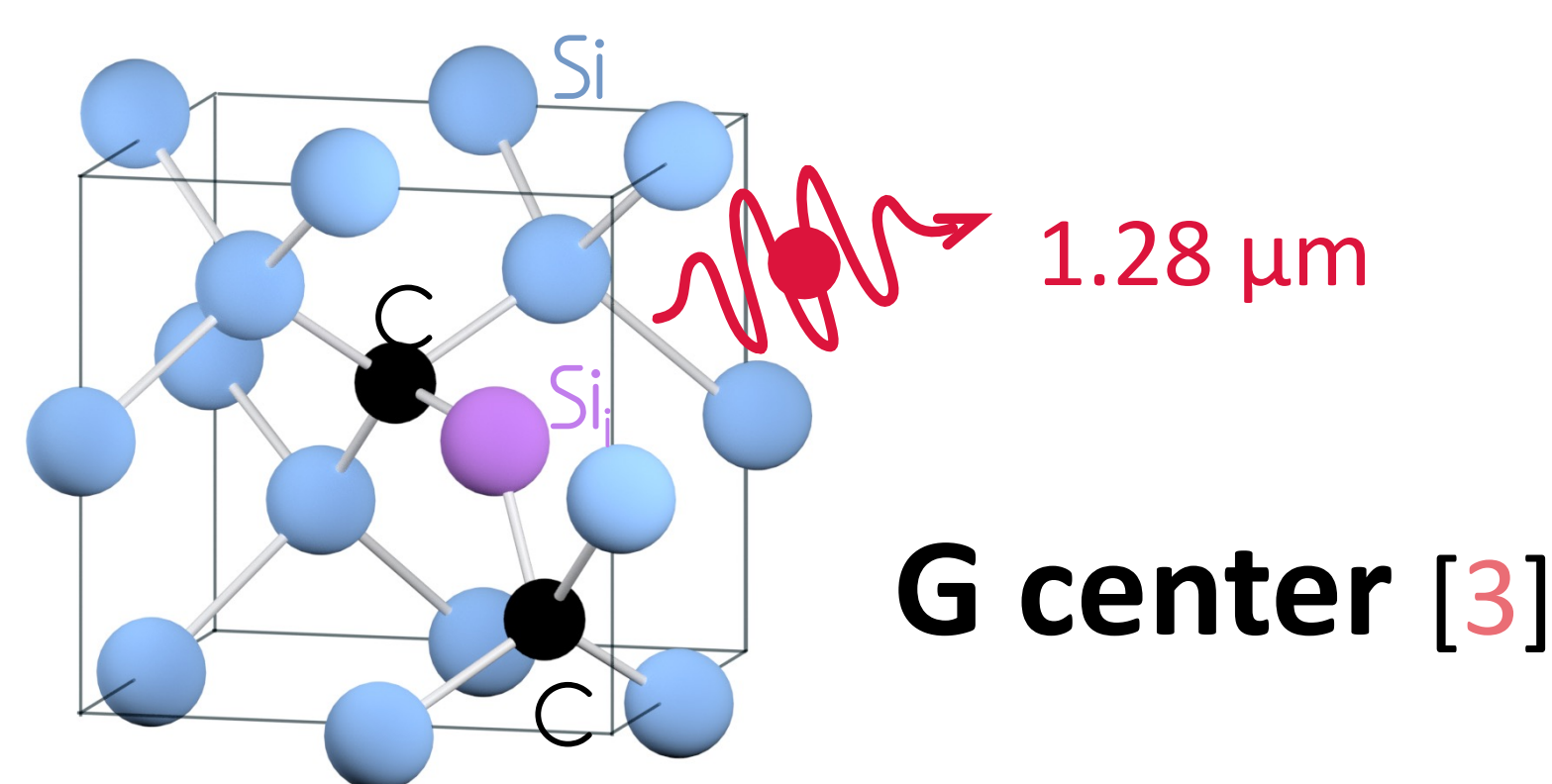
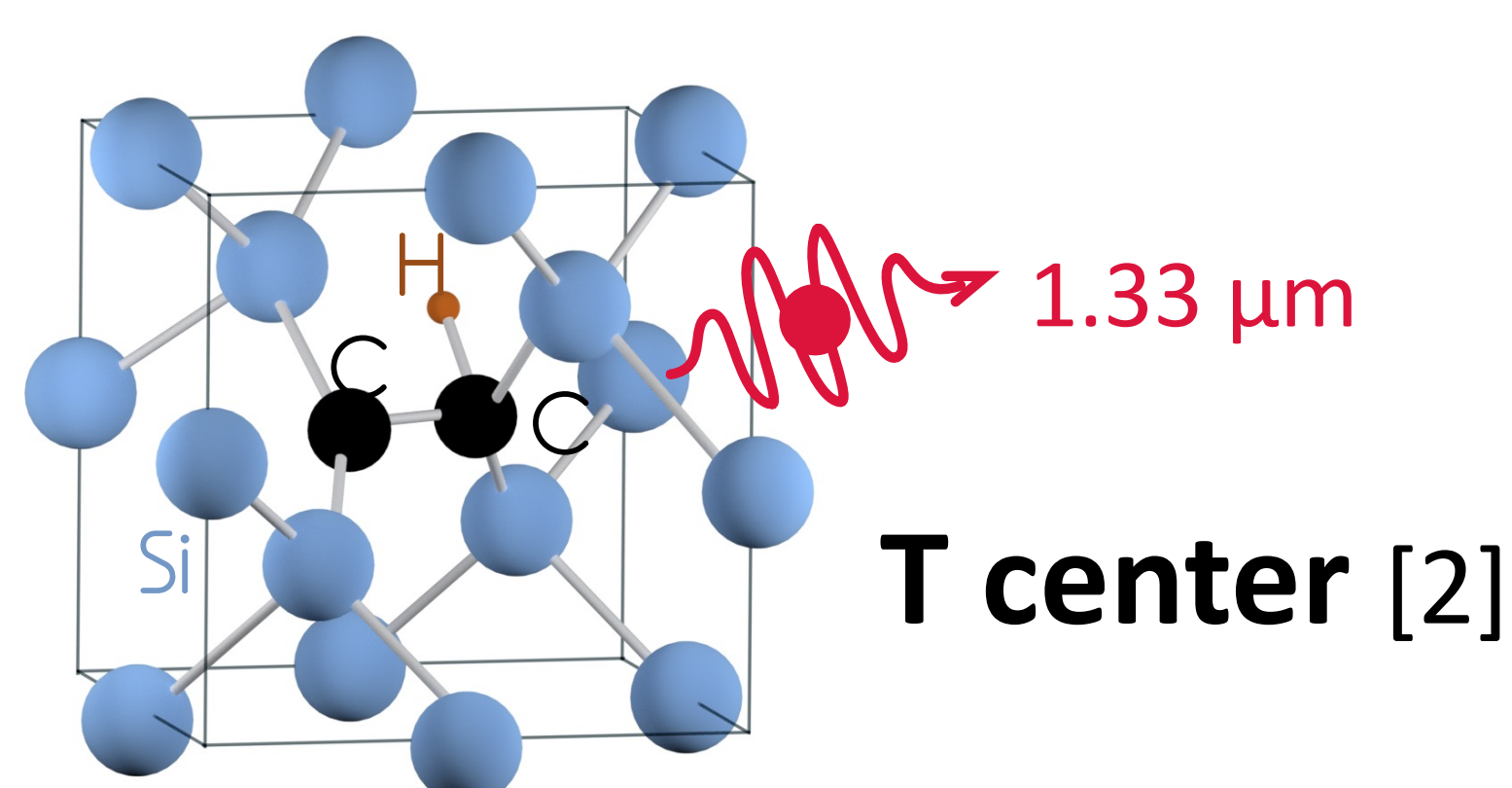
optical coherence is degraded by integration in photonic structures

TEMISIS project

GOAL: true indistinguishable single photon emission from single spin-defects directly integrated in photonic cavities

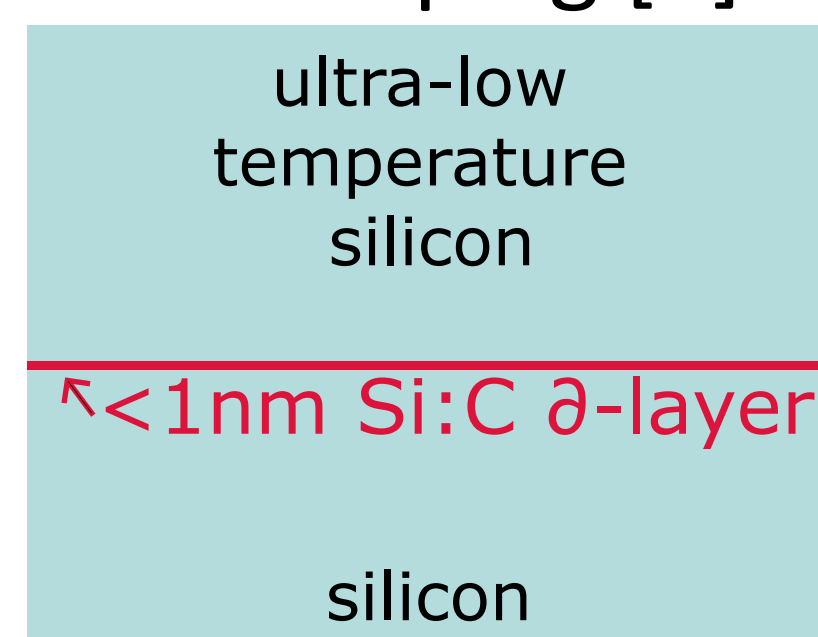


2 promising spin-defects in silicon emitting in the **telecom O-band**



defect engineering & proximity to interfaces

- localized implantation [5]
- δ -doping [6]



^{28}Si isotopic purification

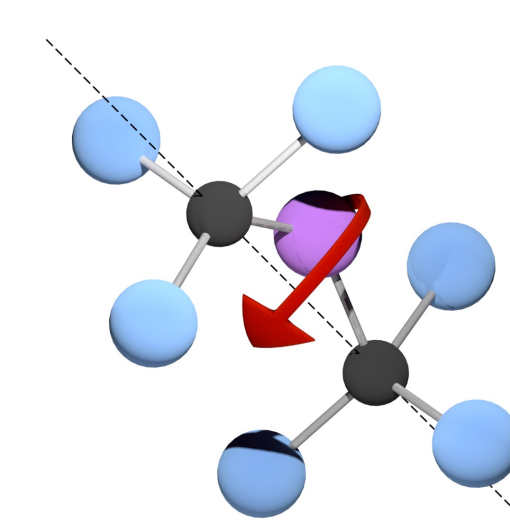
- eliminating static disorder

Exploration paths

strain engineering [7]



- compensating from static perturbation
- controlling the G center rotation [8]



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