

$N=Z$ nuclei are an unique laboratory

- determine effective interactions
- competition between short range $\bar{\alpha}\alpha$ and $\alpha\alpha$ pairing
- phase transition to $\alpha\alpha$ -pairing
 ${}^3\text{He} \quad \text{B phase} \leftrightarrow \text{A (A}_1\text{)}\text{-phase}$
- Many body system with two different superfluids in one wavefunction
- detailed spectroscopy in $N=Z$ nuclei
(life time, g -factor,)
- differences in $T=1$ pairing
 $\Delta_{nn} \quad \Delta_{pp} \quad \Delta_{np}$