

$$\left(\begin{array}{c}
 \text{----- irrep Decomposition -----} \\
 \\
 \{ T_{2g}^2, \mid (E_g + A_{1g} + T_{1g} + T_{2g}) \} \\
 \\
 \text{----- irrep Decomposition - Sn adapted -----} \\
 \\
 \left(\begin{array}{cc}
 \{ T_{2g}^2, [2] \} & E_g + A_{1g} + T_{2g} \\
 \{ T_{2g}^2, [1^2] \} & T_{1g}
 \end{array} \right)
 \end{array} \right)$$