

Hydrogen Bonded Dipole-Dipole Coupling in Molecular Crystals

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... dipole-allowed $P_h P_e$... dipole-forbidden $S_h P_e$ $P_h S_e$...
 $P_h P_e$



$$\begin{aligned}
 & \left(\frac{1}{2} \frac{d^2}{dt^2} + D_h \right) \psi = \left(\frac{1}{2} \frac{d^2}{dt^2} + S_h P_h^\parallel + P_h^\perp \right) \psi \\
 & \left(\frac{1}{2} \frac{d^2}{dt^2} + D_h \right) \psi = \left(\frac{1}{2} \frac{d^2}{dt^2} + S_h P_h^\parallel + P_h^\perp \right) \psi
 \end{aligned}$$

$$I_{\text{sc}}(\omega) \propto \sum_{v,c} |\langle \psi_v | r | \psi_c \rangle|^2$$

$S_h P_e - P_h S_e$
 R
 et
 V
 $S_h P_e - P_h S_e$
 V
 $S_h P_e$
 $H u$
 $P_h P_e$
 $()$
 u

$S_h S_e - P_h P_e$
 $S_h P_e - P_h S_e$
 u