

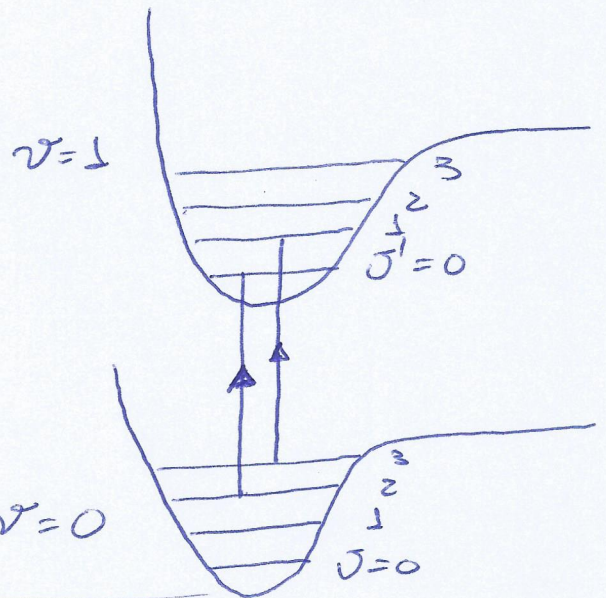
# Espectro Raman de Vibração

$$v \rightarrow v + 1$$

$$J \rightarrow J - 2$$

$$\tilde{\nu}(v, J) = \tilde{\nu}_0 - \Delta S(v, J)$$

$$S(v, J) = (v + \frac{1}{2}) \tilde{\nu} + B J(J+1) \quad v=0$$



$$\tilde{\nu}(v, J) = \tilde{\nu}_0 - S(v+1, J-2) - S(v, J)$$

$$S(v+1, J-2) = (v+1 + \frac{1}{2}) \tilde{\nu} + B(J-2)(J-2+1)$$

$$S(v+1, J-2) = (v + \frac{3}{2}) \tilde{\nu} + B J^2 - 3B J + 2B$$

$$S(v, J) = (v + \frac{1}{2}) \tilde{\nu} + B J^2 + B J$$

$$\Delta S(v, J) = \tilde{\nu} - 4B J + 2B$$

$$\tilde{\nu}(v, J) = \tilde{\nu}_0 - \tilde{\nu} - 2B(2J-1)$$

$$J = 2, 3, 4, 5, \dots$$

