

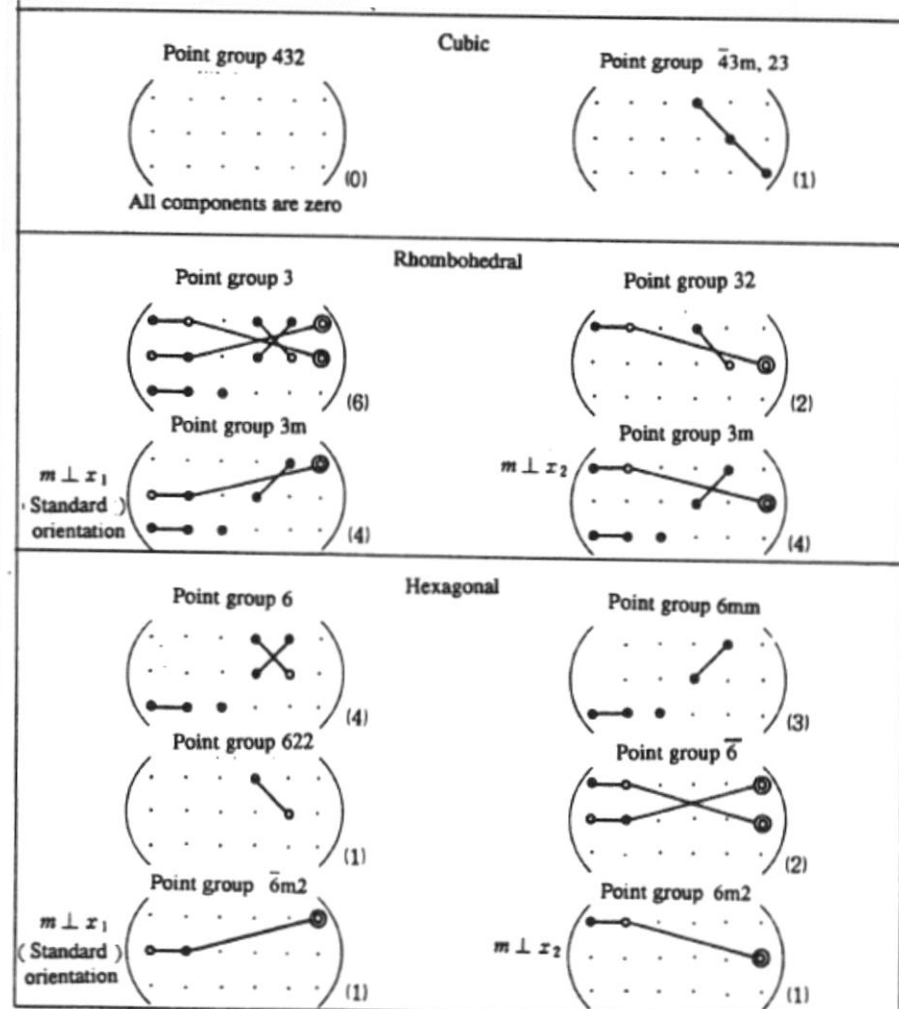
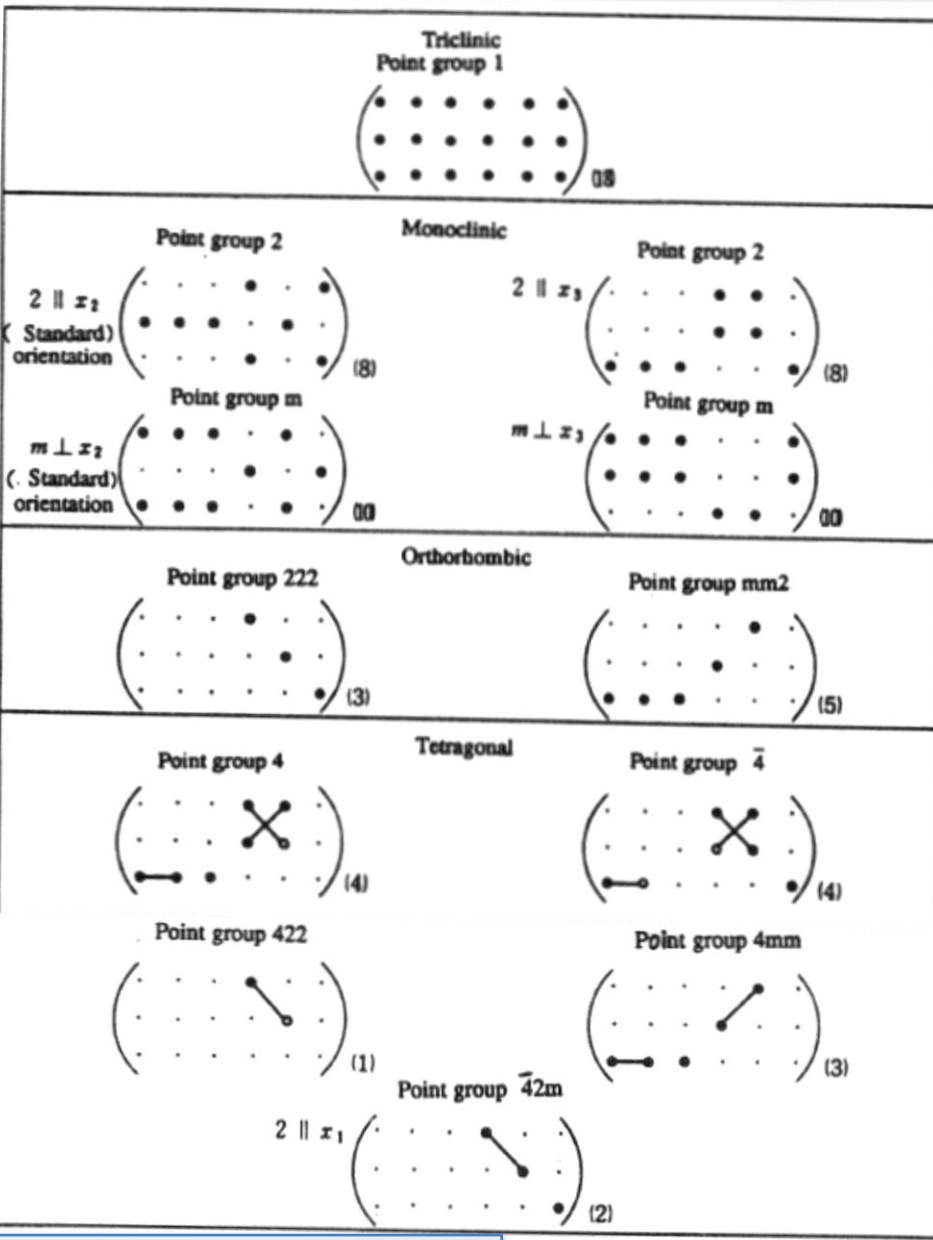
Piezoelectric Coefficients

Piezoelectric coefficient matrix.*

$$* \begin{cases} d_{mn} = d_{ijk} & (n = 1, 2, 3) \\ d_{mn} = 2d_{ijk} & (n = 4, 5, 6) \end{cases}$$

Symbol meanings

- Zero component
- Non-zero component
- Equal component
- Equal with opposite signs
- ⊖ -2 times of the ● connected point

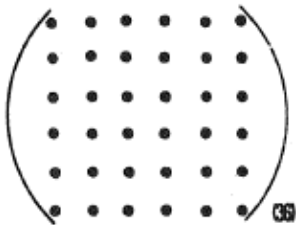


Electrostrictive Coefficients

Symbol meanings

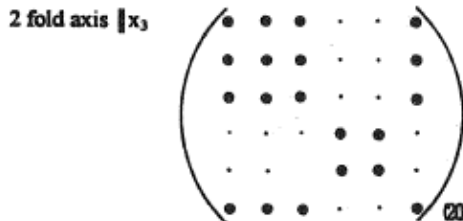
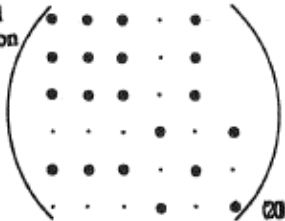
- Zero component
- Non-zero component
- Equal components
- Equal with opposite signs
- ⊙ 2 times of the ● connected component
- ⊖ -2 times of the ● connected component
- × $2(Q_{11} - Q_{12})$

Trigonal Point group 1, $\bar{3}$

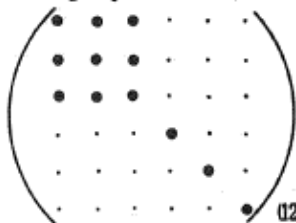


Monoclinic Point group 2, m, 2/m

2 fold axis $\parallel x_2$
Standard orientation



Orthorhombic Point group 222, mm2, mmm



Electrostrictive coefficient matrix.

$$* \begin{cases} Q_{mn} = Q_{ijkl} & (m, n = 1, 2, 3) \\ Q_{mn} = 2 Q_{ijkl} & (m \neq n = 4, 5, 6) \\ Q_{mn} = 4 Q_{ijkl} & (m, n = 4, 5, 6) \end{cases}$$

