$$Y_{l_1}^{m_1} Y_{l_2}^{m_2} = \sum_{l=0}^{\infty} \sum_{m=-l}^{l} a_{l'}^{m'} Y_{l'}^{m'}$$

$$a_{l'}^{m'} = (-1)^{m'} \left[\frac{(2l_1+1)(2l_2+1)(2l'+1)}{4\pi} \right]^{1/2} \begin{pmatrix} l_1 & l_2 & l' \\ 0 & 0 & 0 \end{pmatrix} \begin{pmatrix} l_1 & l_2 & l' \\ m_1 & m_2 & -m' \end{pmatrix}$$

a'_1

$$\underset{\substack{4\\3}}{Y_j^p}\,\underset{\substack{2\\1}}{Y_l^m} = (-1)^{m+p} \sum_{k=|l-j|}^{l+j} \alpha_{lmjpk} Y_k^{m+p} \quad {}^{2+4}_{5}$$

$k \to n$ (code)

$$\mathcal{R}Y_j^p \cdot \mathcal{R}Y_l^m = (-1)^{m+p} \sum_{k=|l-j|}^{l+j} \beta_{lmjpk} Y_k^{m+p}$$

$$\alpha_{lmjpk} = \int_{||\mathbf{m}||=1} Y_j^p Y_l^m Y_k^{-m-p} \, d\mathbf{m} \quad \overset{?}{\neq} \int Y_j^{p+1} Y_l^{m-1} Y_k^{-m-p} \, dm$$

$$= \sqrt{\frac{(2j+1)(2l+1)(2k+1)}{4\pi}} \begin{pmatrix} j & l & k \\ 0 & 0 & 0 \end{pmatrix} \begin{pmatrix} j & l & k \\ p & m & -m-p \end{pmatrix}$$

$$\beta_{lmjpk} = \frac{1}{2}(j^2 + j + l^2 + l - k^2 - k) \alpha_{lmjpk}$$

$$\begin{pmatrix} a & b & c \\ \alpha & \beta & \gamma \end{pmatrix} = (-1)^{a-b-\gamma} \times \sqrt{\Delta(abc)} \sqrt{(a+\alpha)!(a-\alpha)!(b+\beta)!(b-\beta)!(c+\gamma)!(c-\gamma)!}$$

$$\times \sum_t \frac{(-1)^t}{x}$$

x triangle coeff $\quad Y_j^{p+1} Y_l^{m-1}$

$$\alpha_{l(m-1)j(p+1)k} \overset{?}{=} \alpha_{lmjpk}$$