

Δύο υπολογισμοί ως εφαρμογή της προσέγγισης Clebsch-Gordan
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JM

2 x 1

$$|33\rangle = \sqrt{1} |22|11\rangle$$

$$|32\rangle = \frac{1}{\sqrt{3}} |22|10\rangle + \sqrt{\frac{2}{3}} |22\rangle |11\rangle$$

$$|22\rangle = \sqrt{\frac{2}{3}} |22|10\rangle - \sqrt{\frac{1}{3}} |21|11\rangle$$

$$|31\rangle = \frac{1}{\sqrt{15}} |22\rangle |1-1\rangle + \sqrt{\frac{8}{15}} |21\rangle |10\rangle + \sqrt{\frac{6}{15}} |20\rangle |11\rangle$$

$$|21\rangle = \frac{1}{\sqrt{3}} |22\rangle |1-1\rangle + \sqrt{\frac{1}{6}} |21|10\rangle - \frac{1}{\sqrt{2}} |20\rangle |11\rangle$$

$$|11\rangle = \sqrt{\frac{3}{5}} |22\rangle |1-1\rangle - \sqrt{\frac{3}{10}} |21\rangle |10\rangle + \frac{1}{\sqrt{10}} |20\rangle |11\rangle$$

$$|30\rangle = \frac{1}{\sqrt{5}} |21\rangle |1-1\rangle + \frac{\sqrt{3}}{5} |20\rangle |10\rangle + \frac{1}{\sqrt{5}} |2-1\rangle |11\rangle$$

$$|20\rangle = \frac{1}{\sqrt{2}} |21\rangle |1-1\rangle + 0 |20\rangle |10\rangle - \frac{1}{\sqrt{2}} |2-1\rangle |11\rangle$$

$$|10\rangle = \sqrt{\frac{3}{10}} |21\rangle |1-1\rangle - \sqrt{\frac{2}{5}} |20\rangle |10\rangle + \sqrt{\frac{3}{10}} |2-1\rangle |11\rangle$$

$$|3-1\rangle = \sqrt{\frac{6}{15}} |20\rangle |1-1\rangle + \sqrt{\frac{8}{15}} |2-1\rangle |10\rangle + \frac{1}{\sqrt{15}} |2-2\rangle |11\rangle$$

$$|2-1\rangle = \sqrt{\frac{1}{2}} |20\rangle |1-1\rangle - \frac{1}{\sqrt{6}} |2-1\rangle |10\rangle - \frac{1}{\sqrt{3}} |2-2\rangle |11\rangle$$

$$|1-1\rangle = \frac{1}{\sqrt{10}} |20\rangle |1-1\rangle - \sqrt{\frac{3}{10}} |2-1\rangle |10\rangle + \sqrt{\frac{3}{5}} |2-2\rangle |11\rangle$$

$$|3-2\rangle = \sqrt{\frac{7}{3}} |2-1\rangle |1-1\rangle + \frac{1}{\sqrt{3}} |2-2\rangle |10\rangle$$

$$\begin{aligned} |2-2\rangle &= \frac{1}{\sqrt{3}} |2-1\rangle \left| 1-1 \right\rangle - \sqrt{\frac{2}{3}} |2-2\rangle |10\rangle \\ |3-3\rangle &= \sqrt{1} |2-2\rangle |1-1\rangle \end{aligned}$$