$$H(00) = S_0^2 + P_0^2 + P_-^2 + D_0^2 + D_-^2 + P_+^2 + D_+^2$$

$$H(10) = \frac{1}{\sqrt{3}} S_0 P_0 + \frac{2}{\sqrt{15}} P_0 D_0 + \frac{1}{\sqrt{5}} (P_- D_- + P_+ D_+)$$

$$H(11) = \frac{1}{\sqrt{6}} S_0 P_- + \frac{1}{\sqrt{10}} P_0 D_- - \frac{1}{\sqrt{30}} P_- D_0$$

$$H(20) = \frac{1}{\sqrt{5}} S_0 D_0 + \frac{2}{5} P_0^2 - \frac{1}{5} (P_-^2 + P_+^2) + \frac{2}{7} D_0^2 + \frac{1}{7} (D_-^2 + D_+^2)$$

$$H(21) = \frac{1}{\sqrt{10}} S_0 D_- + \frac{1}{5} \sqrt{\frac{3}{2}} P_0 P_- + \frac{1}{7\sqrt{2}} D_0 D_-$$

$$H(22) = \frac{1}{5} \sqrt{\frac{3}{2}} (P_-^2 - P_+^2) + \frac{1}{7} \sqrt{\frac{3}{2}} (D_-^2 - D_+^2)$$

$$H(30) = \frac{3}{7\sqrt{5}} (\sqrt{3} P_0 D_0 - P_- D_- - P_+ D_+)$$

$$H(31) = \frac{1}{7} \sqrt{\frac{3}{5}} (2 P_0 D_- + \sqrt{3} P_- D_0)$$

$$H(32) = \frac{1}{7} \sqrt{\frac{3}{2}} (P_- D_- - P_+ D_+)$$

$$H(40) = \frac{2}{7} D_0^2 - \frac{4}{21} (D_-^2 + D_+^2)$$

$$H(41) = \frac{1}{7} \sqrt{\frac{5}{3}} D_0 D_-$$

$$H(42) = \frac{\sqrt{10}}{21} (D_-^2 - D_+^2)$$