

i	$f_i(\Omega)$	$\Gamma_i^{\text{tr}}(q^2)$
1	$P_0^0 Y_0^0$	$ H_0 ^2 + H_{\parallel} ^2 + H_{\perp} ^2 + S ^2 + D_0 ^2 + D_{\parallel} ^2 + D_{\perp} ^2$
2	$P_1^1 Y_0^0$	$2 \left[\frac{2}{\sqrt{5}} \text{Re}(H_0 D_0^*) + \text{Re}(S H_0^*) + \sqrt{\frac{3}{5}} \text{Re}(H_{\parallel} D_{\parallel}^* + H_{\perp} D_{\perp}^*) \right]$
3	$P_2^2 Y_0^0$	$\frac{\sqrt{5}}{7} (D_{\parallel} ^2 + D_{\perp} ^2) - \frac{1}{\sqrt{5}} (H_{\parallel} ^2 + H_{\perp} ^2) + \frac{2}{\sqrt{5}} H_0 ^2 + \frac{10}{7\sqrt{5}} D_0 ^2 + 2 \text{Re}(S D_0^*)$
4	$P_3^0 Y_0^0$	$-\frac{6}{\sqrt{35}} \left[-\text{Re}(H_{\parallel} D_{\parallel}^* + H_{\perp} D_{\perp}^*) + \sqrt{3} \text{Re}(H_0 D_0^*) \right]$
5	$P_4^0 Y_0^0$	$\frac{2}{7} \left[-2(D_{\parallel} ^2 + D_{\perp} ^2) + 3 D_0 ^2 \right]$
6	$P_0^0 Y_2^0$	$\frac{1}{2\sqrt{5}} \left[(D_{\parallel} ^2 + D_{\perp} ^2) + (H_{\parallel} ^2 + H_{\perp} ^2) - 2 S ^2 - 2 D_0 ^2 - 2 H_0 ^2 \right]$
7	$P_1^0 Y_2^0$	$\left[\frac{\sqrt{3}}{5} \text{Re}(H_{\parallel} D_{\parallel}^* + H_{\perp} D_{\perp}^*) - \frac{2}{\sqrt{5}} \text{Re}(S H_0^*) - \frac{4}{5} \text{Re}(H_0 D_0^*) \right]$
8	$P_2^0 Y_2^0$	$\left[\frac{1}{14} (D_{\parallel} ^2 + D_{\perp} ^2) - \frac{2}{7} D_0 ^2 - \frac{1}{10} (H_{\parallel} ^2 + H_{\perp} ^2) - \frac{2}{5} H_0 ^2 - \frac{2}{\sqrt{5}} \text{Re}(S D_0^*) \right]$
9	$P_3^0 Y_2^0$	$-\frac{3}{5\sqrt{7}} \left[\text{Re}(H_{\parallel} D_{\parallel}^* + H_{\perp} D_{\perp}^*) + 2\sqrt{3} \text{Re}(H_0 D_0^*) \right]$
10	$P_4^0 Y_2^0$	$-\frac{2}{7\sqrt{5}} \left[D_{\parallel} ^2 + D_{\perp} ^2 + 3 D_0 ^2 \right]$
11	$P_1^1 \sqrt{2} \text{Re}(Y_2^1)$	$-\frac{3}{\sqrt{10}} \left[\sqrt{\frac{2}{3}} \text{Re}(H_{\parallel} S^*) - \sqrt{\frac{2}{15}} \text{Re}(H_{\parallel} D_0^*) + \sqrt{\frac{2}{5}} \text{Re}(D_{\parallel} H_0^*) \right]$
12	$P_2^1 \sqrt{2} \text{Re}(Y_2^1)$	$-\frac{3}{5} \left[\text{Re}(H_{\parallel} H_0^*) + \sqrt{\frac{5}{3}} \text{Re}(D_{\parallel} S^*) + \frac{5}{7\sqrt{3}} \text{Re}(D_{\parallel} D_0^*) \right]$
13	$P_3^1 \sqrt{2} \text{Re}(Y_2^1)$	$-\frac{6}{5\sqrt{14}} \left[2 \text{Re}(D_{\parallel} H_0^*) + \sqrt{3} \text{Re}(H_{\parallel} D_0^*) \right]$
14	$P_4^1 \sqrt{2} \text{Re}(Y_2^1)$	$-\frac{6}{7\sqrt{2}} \text{Re}(D_{\parallel} D_0^*)$
15	$P_1^1 \sqrt{2} \text{Im}(Y_2^1)$	$3 \left[\frac{1}{\sqrt{15}} \text{Im}(H_{\perp} S^*) + \frac{1}{5} \text{Im}(D_{\perp} H_0^*) - \frac{1}{5\sqrt{3}} \text{Im}(H_{\perp} D_0^*) \right]$
16	$P_2^1 \sqrt{2} \text{Im}(Y_2^1)$	$3 \left[\frac{1}{7\sqrt{3}} \text{Im}(D_{\perp} D_0^*) + \frac{1}{5} \text{Im}(H_{\perp} H_0^*) + \frac{1}{\sqrt{15}} \text{Im}(D_{\perp} S^*) \right]$
17	$P_3^1 \sqrt{2} \text{Im}(Y_2^1)$	$\frac{6}{5\sqrt{14}} \left[2 \text{Im}(D_{\perp} H_0^*) + \sqrt{3} \text{Im}(H_{\perp} D_0^*) \right]$
18	$P_4^1 \sqrt{2} \text{Im}(Y_2^1)$	$\frac{6}{7\sqrt{2}} \text{Im}(D_{\perp} D_0^*)$
19	$P_0^0 \sqrt{2} \text{Re}(Y_2^2)$	$-\frac{3}{2\sqrt{15}} \left[(H_{\parallel} ^2 - H_{\perp} ^2) + (D_{\parallel} ^2 - D_{\perp} ^2) \right]$
20	$P_1^0 \sqrt{2} \text{Re}(Y_2^2)$	$-\frac{3}{5} \left[\text{Re}(H_{\parallel} D_{\parallel}^*) - \text{Re}(D_{\perp} H_{\perp}^*) \right]$
21	$P_2^0 \sqrt{2} \text{Re}(Y_2^2)$	$\frac{\sqrt{3}}{2} \left[-\frac{1}{7} (D_{\parallel} ^2 - D_{\perp} ^2) + \frac{1}{5} (H_{\parallel} ^2 - H_{\perp} ^2) \right]$
22	$P_3^0 \sqrt{2} \text{Re}(Y_2^2)$	$\frac{3}{5} \sqrt{\frac{3}{7}} \left[\text{Re}(H_{\parallel} D_{\parallel}^*) - \text{Re}(D_{\perp} H_{\perp}^*) \right]$
23	$P_4^0 \sqrt{2} \text{Re}(Y_2^2)$	$\frac{2}{7} \sqrt{\frac{3}{5}} (D_{\parallel} ^2 - D_{\perp} ^2)$
24	$P_0^0 \sqrt{2} \text{Im}(Y_2^2)$	$\sqrt{\frac{3}{5}} \left[\text{Im}(H_{\perp} H_{\perp}^*) + \text{Im}(D_{\perp} D_{\perp}^*) \right]$
25	$P_1^0 \sqrt{2} \text{Im}(Y_2^2)$	$\frac{3}{5} \text{Im}(H_{\perp} D_{\parallel}^* + D_{\perp} H_{\parallel}^*)$
26	$P_2^0 \sqrt{2} \text{Im}(Y_2^2)$	$\sqrt{3} \left[\frac{1}{7} \text{Im}(D_{\perp} D_{\parallel}^*) - \frac{1}{5} \text{Im}(H_{\perp} H_{\parallel}^*) \right]$
27	$P_3^0 \sqrt{2} \text{Im}(Y_2^2)$	$-\frac{3}{5} \sqrt{\frac{3}{7}} \text{Im}(D_{\perp} H_{\parallel}^* + H_{\perp} D_{\parallel}^*)$
28	$P_4^0 \sqrt{2} \text{Im}(Y_2^2)$	$-\frac{4}{7} \sqrt{\frac{3}{5}} \text{Im}(D_{\perp} D_{\parallel}^*)$