$$F_{UU}^{\cos(2\phi)} \sim \sum_a e_a^2\, h_1^{\perp a} \otimes H_1^{\perp a}$$

$$F_{UT}^{\sin(\phi+\phi_S)} \sim \sum_a e_a^2\, h_{1T}^{a} \otimes H_1^{\perp a}$$

$$F_{UL}^{\sin(2\phi)} \sim \sum_a e_a^2\, h_{1L}^{\perp a} \otimes H_1^{\perp a}$$

$$F_{UT}^{\sin(3\phi-\phi_S)} \sim \sum_a e_a^2\, h_{1T}^{\perp a} \otimes H_1^{\perp a}$$