

List of Tables

1.1	Properties of η and η' mesons	4
2.1	Values of $g_{\eta NN}$ and $g_{\eta' NN}$ obtained at different non-physical points and extrapolated to the physical point. Values of coupling constants due to gluonic operator $\alpha_s \tilde{G}\tilde{G}$, contribution without gluonic operator and s-quark contribution as it appears in $a_{\eta^{(\prime)}}$ are also shown.	32
2.2	Comparison of $g_A^{(0)}$ estimated by us with the literature.	33
2.3	Comparison of our results on $g_{\eta NN}$ and $g_{\eta' NN}$ with results for the same from recent literature.	33
3.1	Parameters used in numerical evaluation of the result shown in Eq.(3.67) .	61
3.2	Coefficients of $\frac{1}{Q^4}$ and $\frac{1}{Q^6}$ in our result for the TFFs $F_{\gamma\gamma^* \rightarrow \eta^{(\prime)}}(Q^2)$ at different momenta. Parameters used for evaluation: $\langle \bar{q}q \rangle = (-0.24)^3 GeV^3$, $\kappa_s = \frac{\langle \bar{s}s \rangle}{\langle \bar{q}q \rangle} = 0.8$, $\phi = 40.3^\circ$, $h_q = 0.0020 GeV^3$, $h_s = 0.087 GeV^3$, $f_q = 1.07 f_\pi$, $f_s = 1.34 f_\pi$, $m_q = 4.5 MeV$, $m_s = 100 MeV$, $B_2^q(\eta_0) = B_2^q(\eta_8) = 0.15$, $B_2^g = 16$. . .	63
3.3	Ratios of different Lorentz structures to the total twist-six result for the TFFs $F_{\gamma\gamma^* \rightarrow \eta^{(\prime)}}(Q^2)$ at different momenta. Parameters used for this evaluation are the same as those used in Table.3.2.	63