

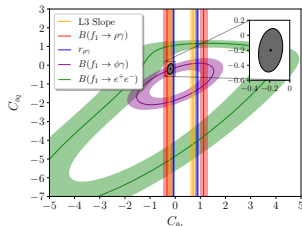
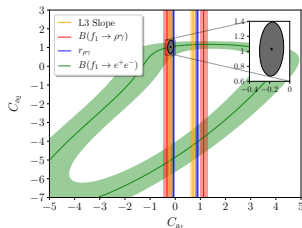
Table 14

Priorities for new experimental input and cross-checks.

issue	experimental input [I] or cross-checks [C]
axials, tensors, higher pseudoscalars missing states dispersive analysis of $\eta^{(\prime)}$ TFFs	$\gamma^{(*)}\gamma^* \rightarrow 3\pi, 4\pi, K\bar{K}\pi, \eta\pi\pi, \eta'\pi\pi$ [I] inclusive $\gamma^{(*)}\gamma^* \rightarrow$ hadrons at 1–3 GeV [I] $e^+e^- \rightarrow \eta\pi^+\pi^-$ [I] $\eta' \rightarrow \pi^+\pi^-\pi^+\pi^-$ [I] $\eta' \rightarrow \pi^+\pi^-e^+e^-$ [I] $\gamma\pi^- \rightarrow \pi^-\eta$ [C]
dispersive analysis of π^0 TFF	$\gamma\pi \rightarrow \pi\pi$ [I] high accuracy Dalitz plot $\omega \rightarrow \pi^+\pi^-\pi^0$ [C] $e^+e^- \rightarrow \pi^+\pi^-\pi^0$ [C] $\omega, \phi \rightarrow \pi^0I^+I^-$ [C]
pseudoscalar TFF pion, kaon, $\pi\eta$ loops (including scalars and tensors)	$\gamma^{(*)}\gamma^* \rightarrow \pi^0, \eta, \eta'$ at arbitrary virtualities [I,C] $\gamma^{(*)}\gamma^* \rightarrow \pi\pi, K\bar{K}, \pi\eta$ at arbitrary virtualities, partial waves [I,C]

Where do we stand?

- **Role of axial-vector TFFs** ($A = f_1, f_1', a_1$)
 - Three independent TFFs
 - $e^+e^- \rightarrow e^+e^-A$ mostly sensitive to symmetric TFF \hookrightarrow equivalent two-photon widths
 - Data from L3, but assuming dipole ansatz, few data points, mostly below 1 GeV
 - Mixing angle from equivalent two-photon widths of $f_1(1285)$, $f_1(1420)$, then $U(3)$ assumptions
 - Little known about asymmetric TFFs
 - $A \rightarrow e^+e^-$ unique probe thereof
 - Some indication from SND for $f_1 \rightarrow e^+e^-$, work in progress at BES III, others?



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