Asymmetry from MAID

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Using the Total cross section output from MAID 2007:

$$\sigma_L, \sigma_T, \sigma_{LT}, \sigma_{TT}$$

Summed the cross sections from two channels:

$$(\gamma p \to \pi^0 p, \gamma p \to \pi^+ n)$$

Using equation from 1001.3898v1 to extract the asymmetry:

$$A_{\parallel} = D\,(A_1 + \eta A_2)$$

$$A_{\perp} = d(A_2 - \xi A_1)$$

$$A_1 = \frac{\sigma_{TT}}{\sigma_T} = \frac{g_1 - \gamma^2 g_2}{F_1}$$

$$A_2 = \frac{\sigma_{LT}}{\sigma_T} = \gamma\left[\frac{g_1 + g_2}{F_1}\right]$$

$$D = \frac{y[(1+\gamma^2 y/2)(2-y) - 2y^2 m^2/Q^2]}{y^2(1-2m^2/Q^2)(1+\gamma^2) + 2(1+R)(1-y-\gamma^2 y^2/4)}$$

$$d = \left[\frac{[1+\gamma^2 y/2(1+2m^2 y/Q^2)]\sqrt{1-y-\gamma^2 y^2/4}}{(1-y/2)(1+\gamma^2 y/2) - y^2 m^2/Q^2}\right] D$$

$$\eta = \gamma\,\frac{[1-y-y^2(\gamma^2/4 + m^2/Q^2)]}{(1-y/2)(1+\gamma^2 y/2) - y^2 m^2/Q^2}$$

$$\xi = \gamma \frac{1 - y/2 - y^2 m^2/Q^2}{1 + \gamma^2 y/2(1+2m^2 y/Q^2)},$$

$$y = \frac{\nu}{E},$$

$$R = (1+\gamma^2)\left(\frac{F_2}{2xF_1}\right) - 1 = \frac{\sigma_L}{\sigma_T}$$

Also the g_1, g_2, F_1, F_2 :

$$\sigma_T = \sigma_{1/2} + \sigma_{3/2} = \frac{4\pi^2\alpha}{MK} F_1 \ ,$$

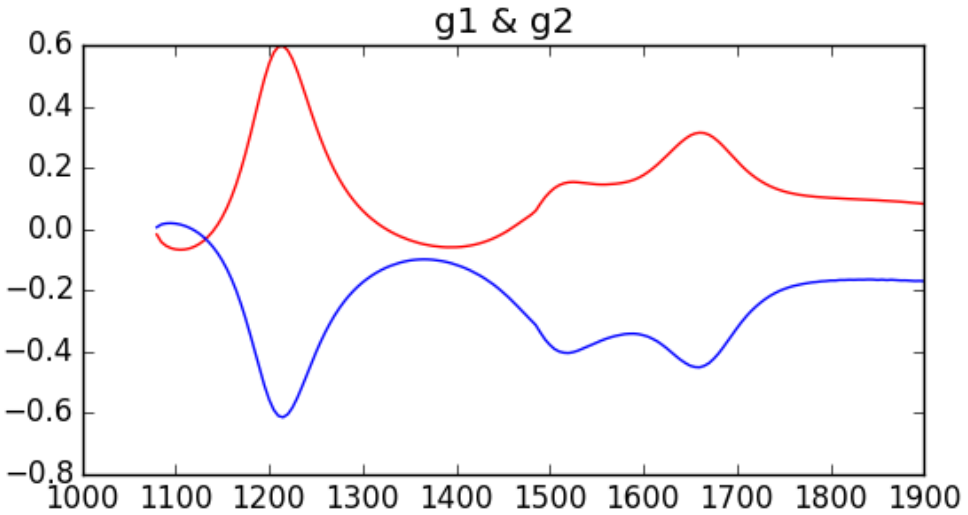
$$\sigma_L = \frac{4\pi^2\alpha}{MK} \left[\frac{1+\gamma^2}{\gamma^2\nu} F_2 - \frac{1}{M} F_1 \right] \ ,$$

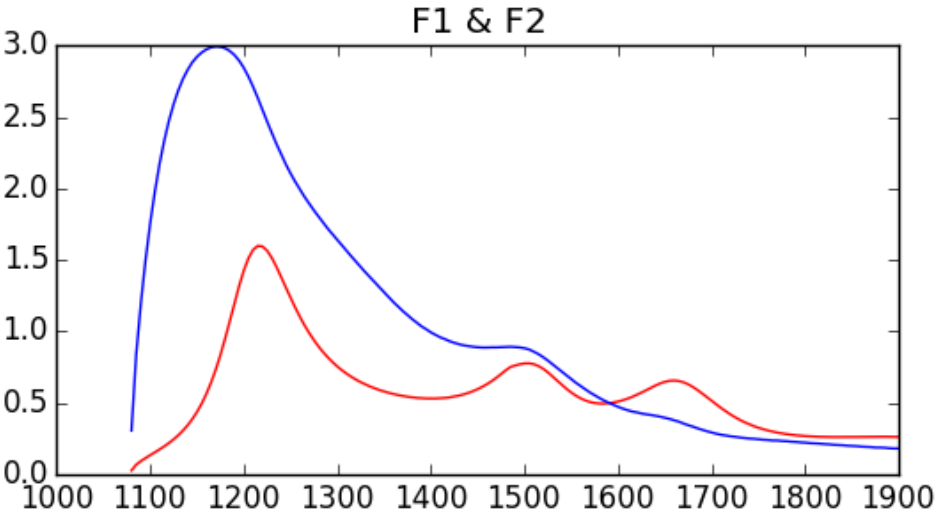
$$\sigma_{TT} = \sigma_{1/2} - \sigma_{3/2} = \frac{4\pi^2\alpha}{MK} (g_1 - \gamma^2 g_2) \ ,$$

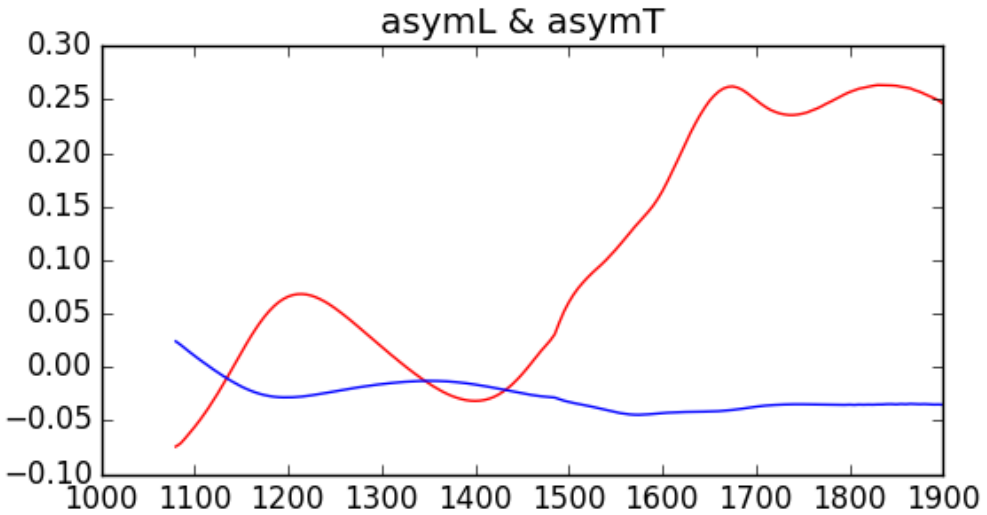
$$\sigma_{LT} = \frac{4\pi^2\alpha}{MK} \gamma (g_1 + g_2) \ ,$$

$$K = \nu(1-x) = \frac{W^2 - M^2}{2M}$$

Q2=0.02 GeV2

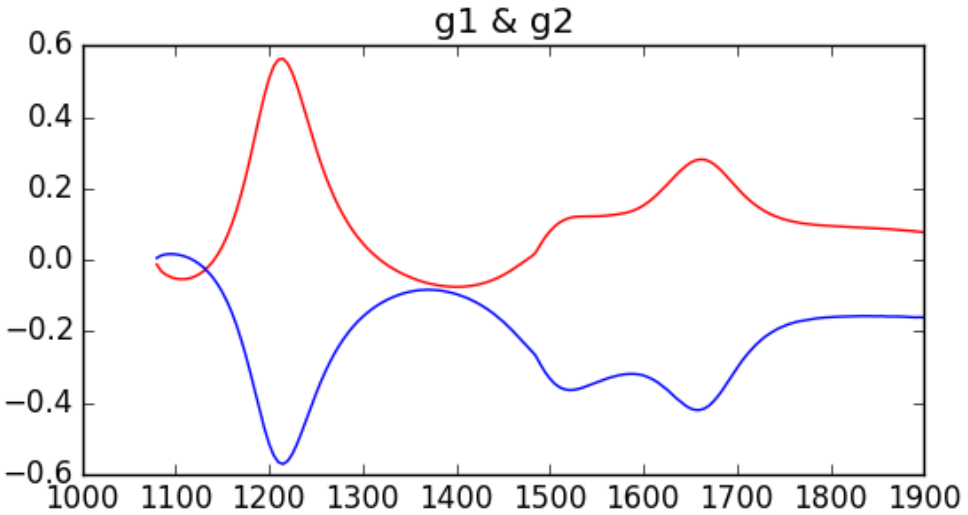


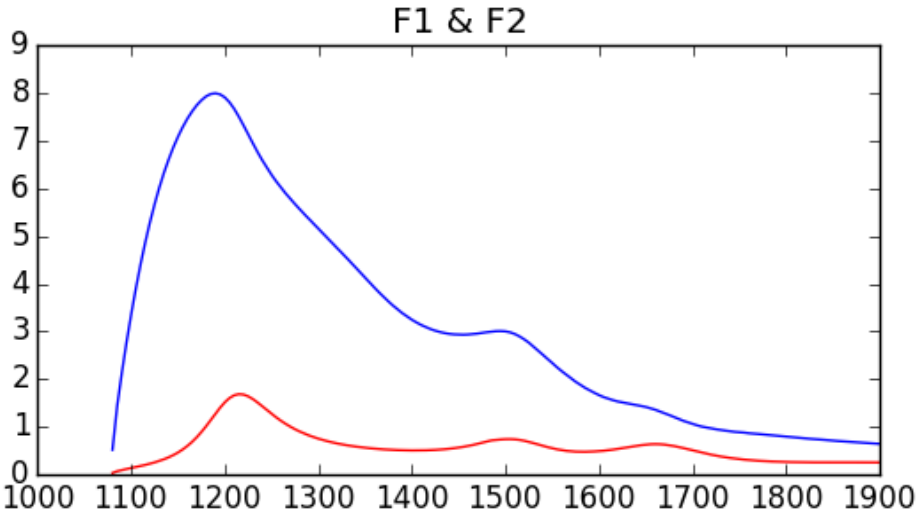


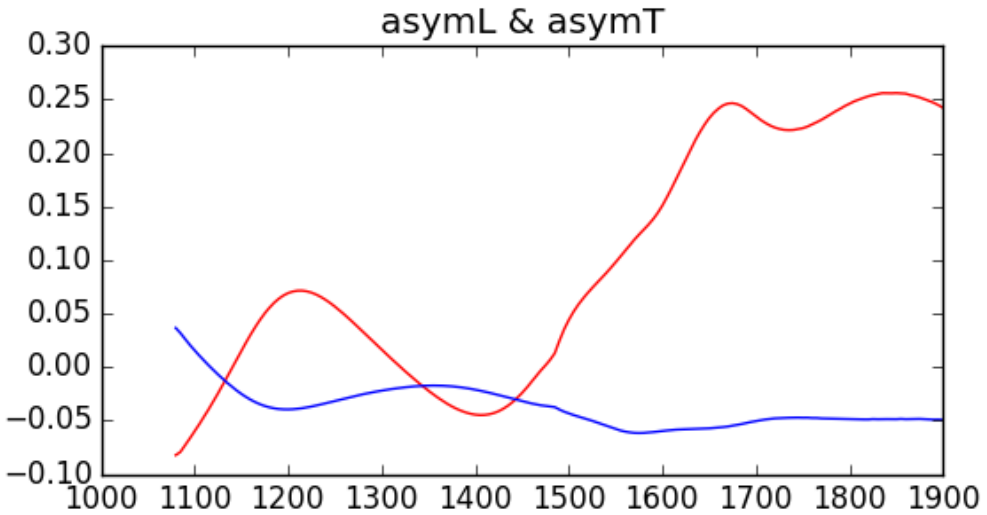


Red : g1, F1, asymL
Blue: g2, F2, asymT

Q2=0.04 GeV2

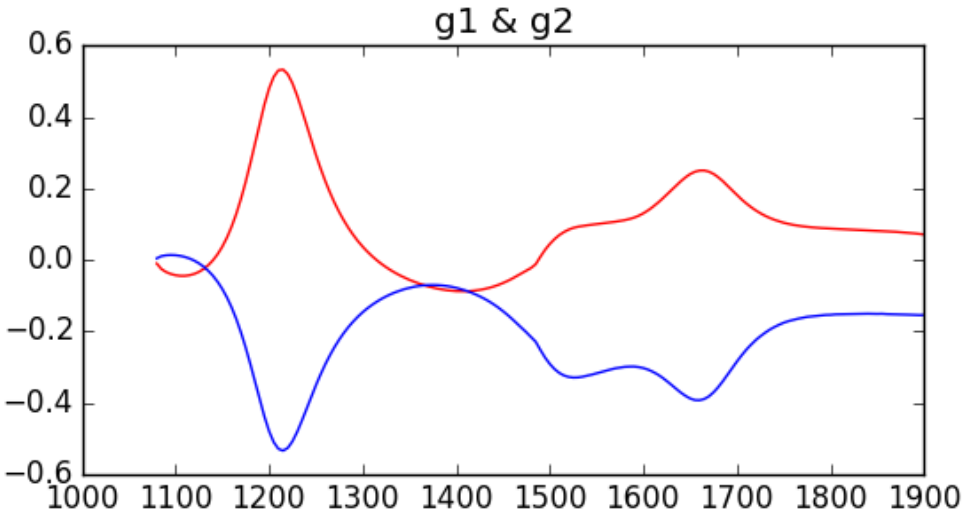


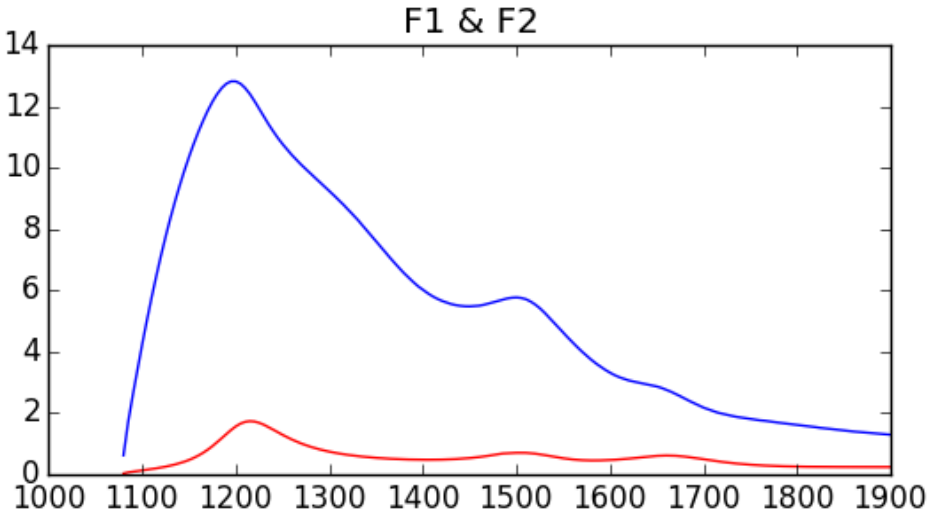


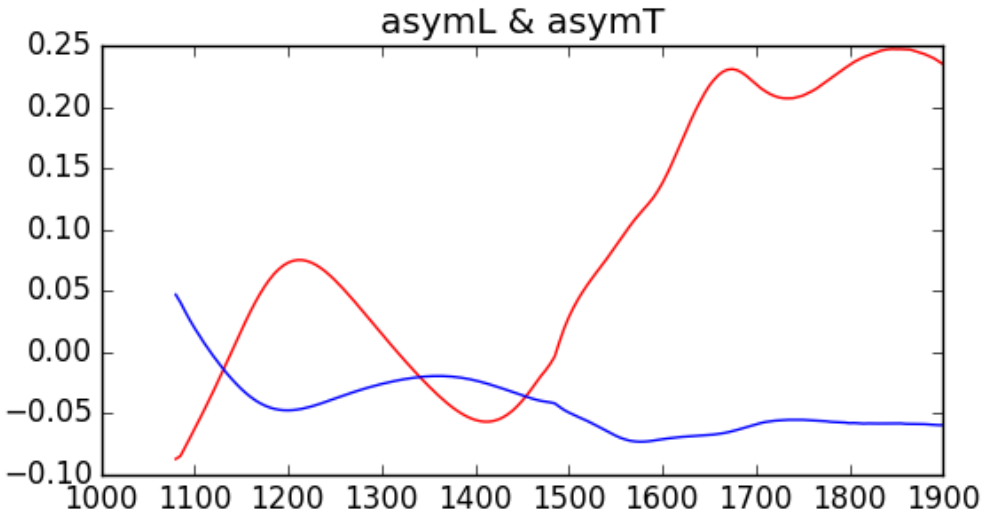


Red : g1, F1, asymL
Blue: g2, F2, asymT

Q2=0.06 GeV2

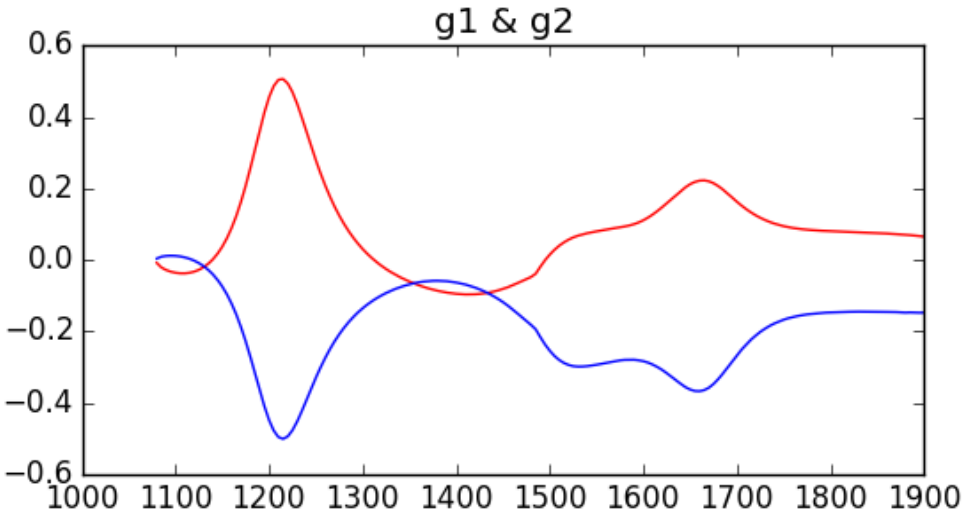


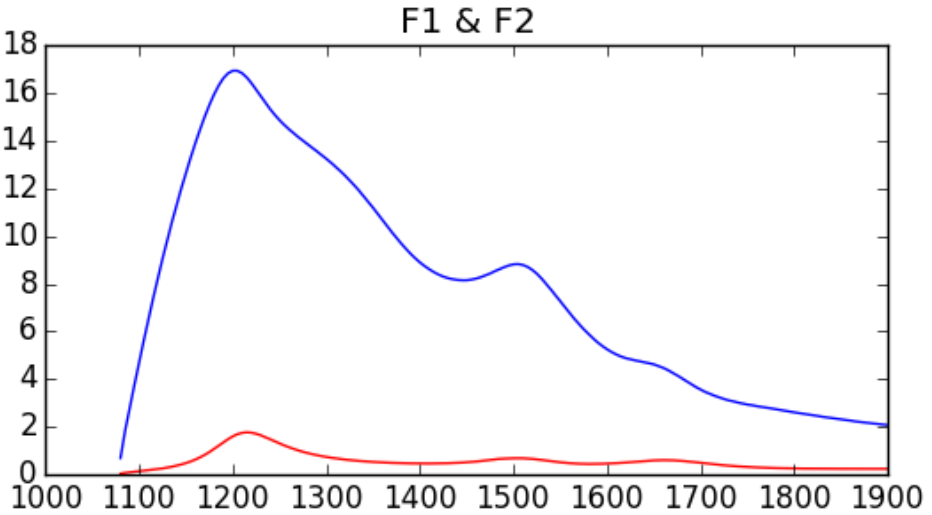


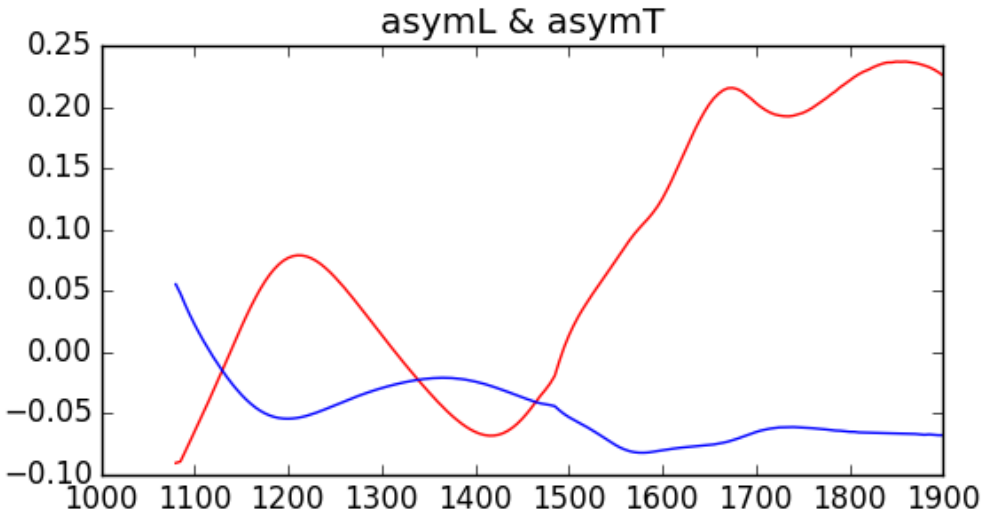


Red : g1, F1, asymL
Blue: g2, F2, asymT

Q2=0.08 GeV2

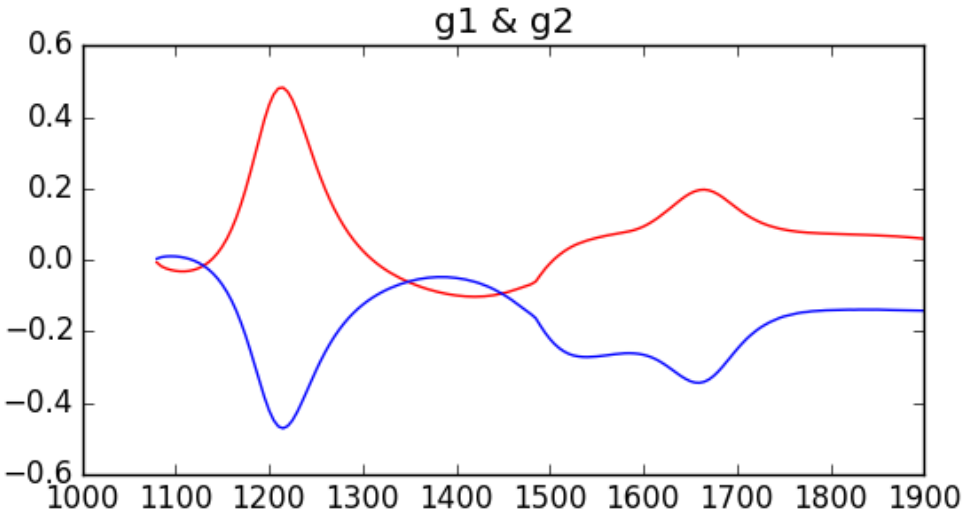


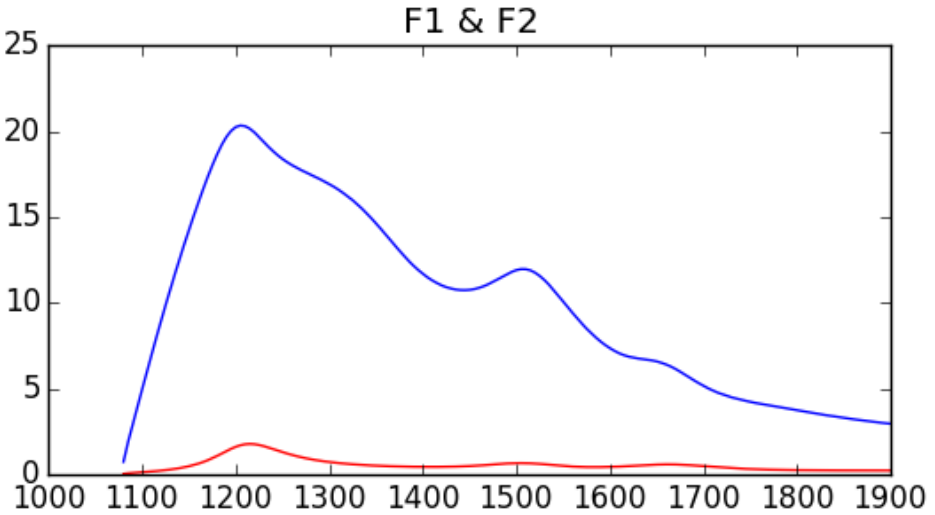


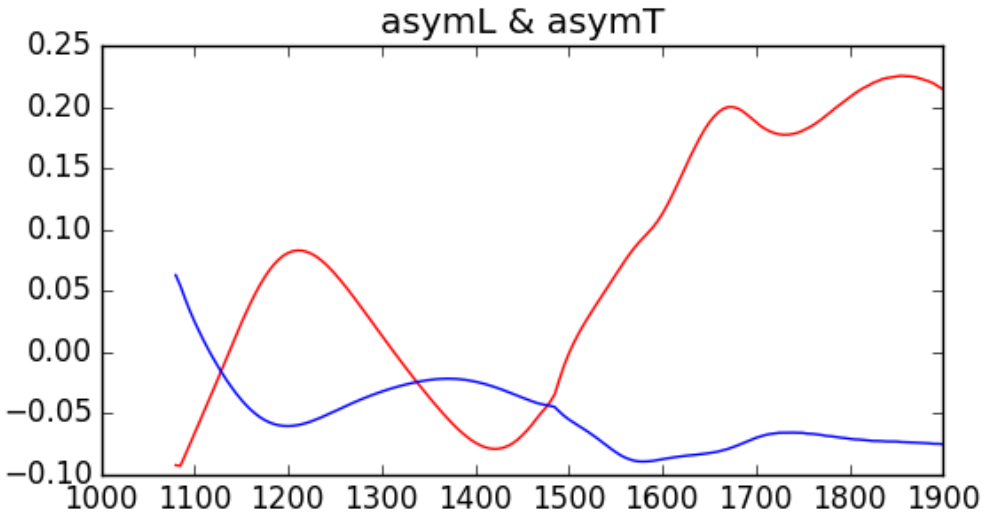


Red : g1, F1, asymL
Blue: g2, F2, asymT

Q2=0.1 GeV2

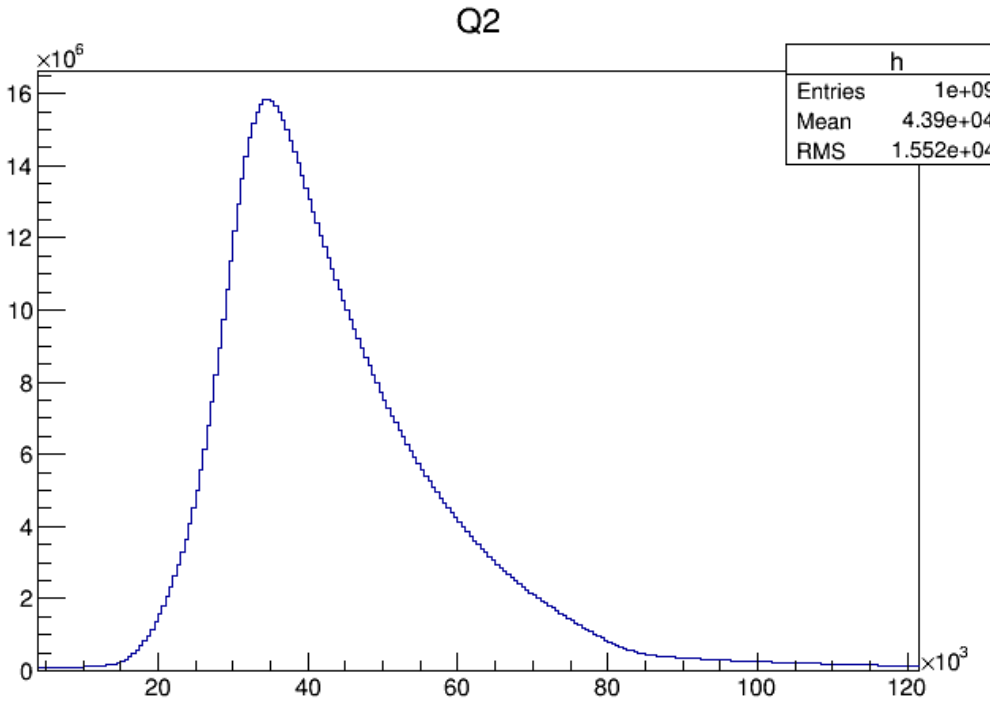


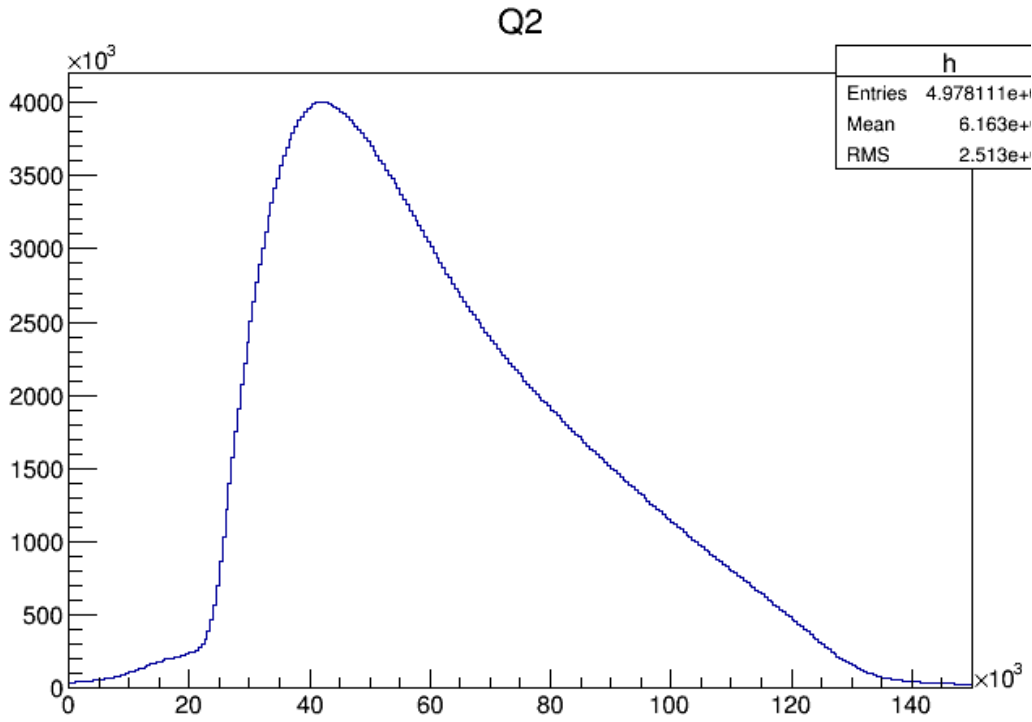




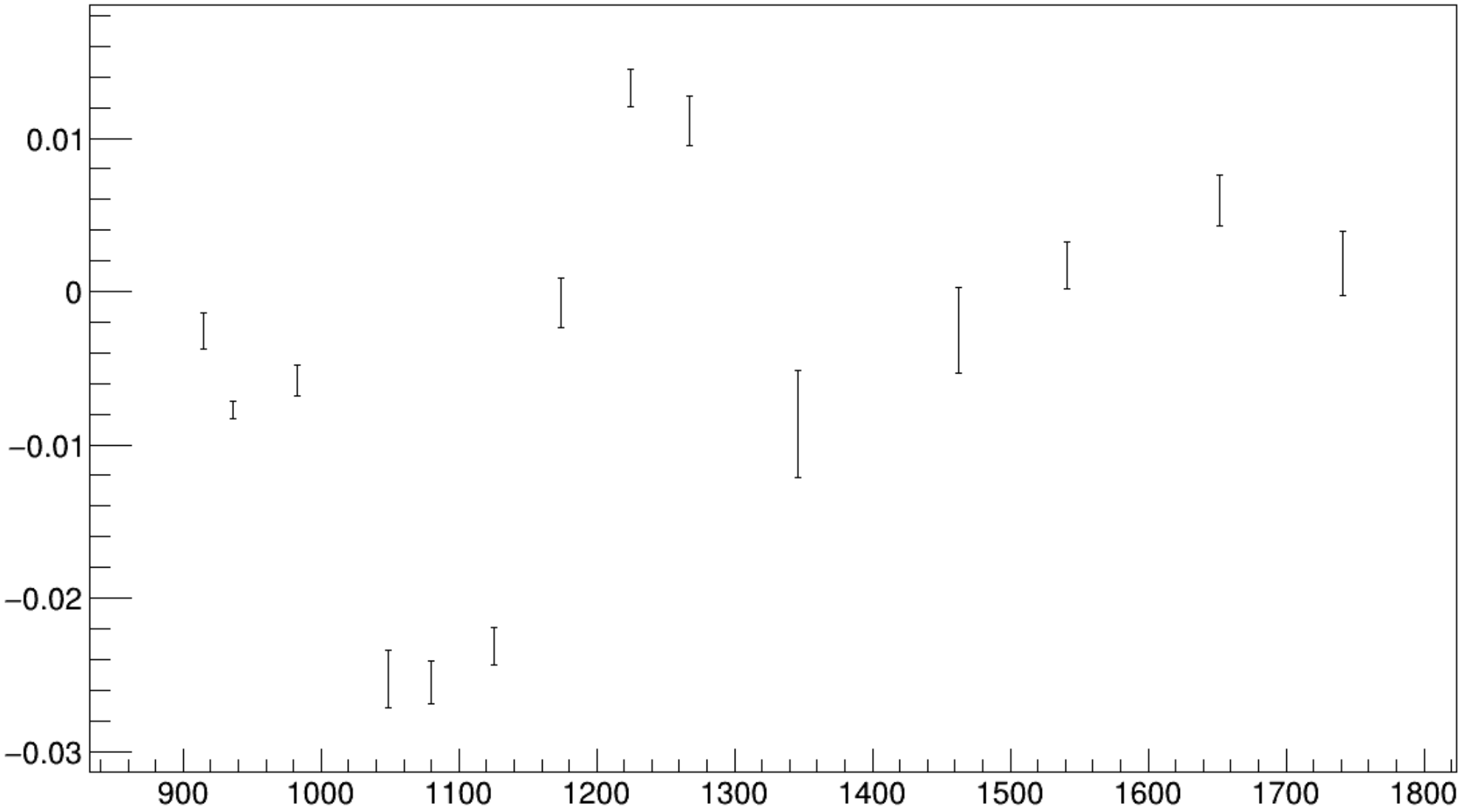
Red : g1, F1, asymL
Blue: g2, F2, asymT

g2p data choose:
2.254GeV, 5T, Longitudinal
2.254GeV, 5T, Transverse

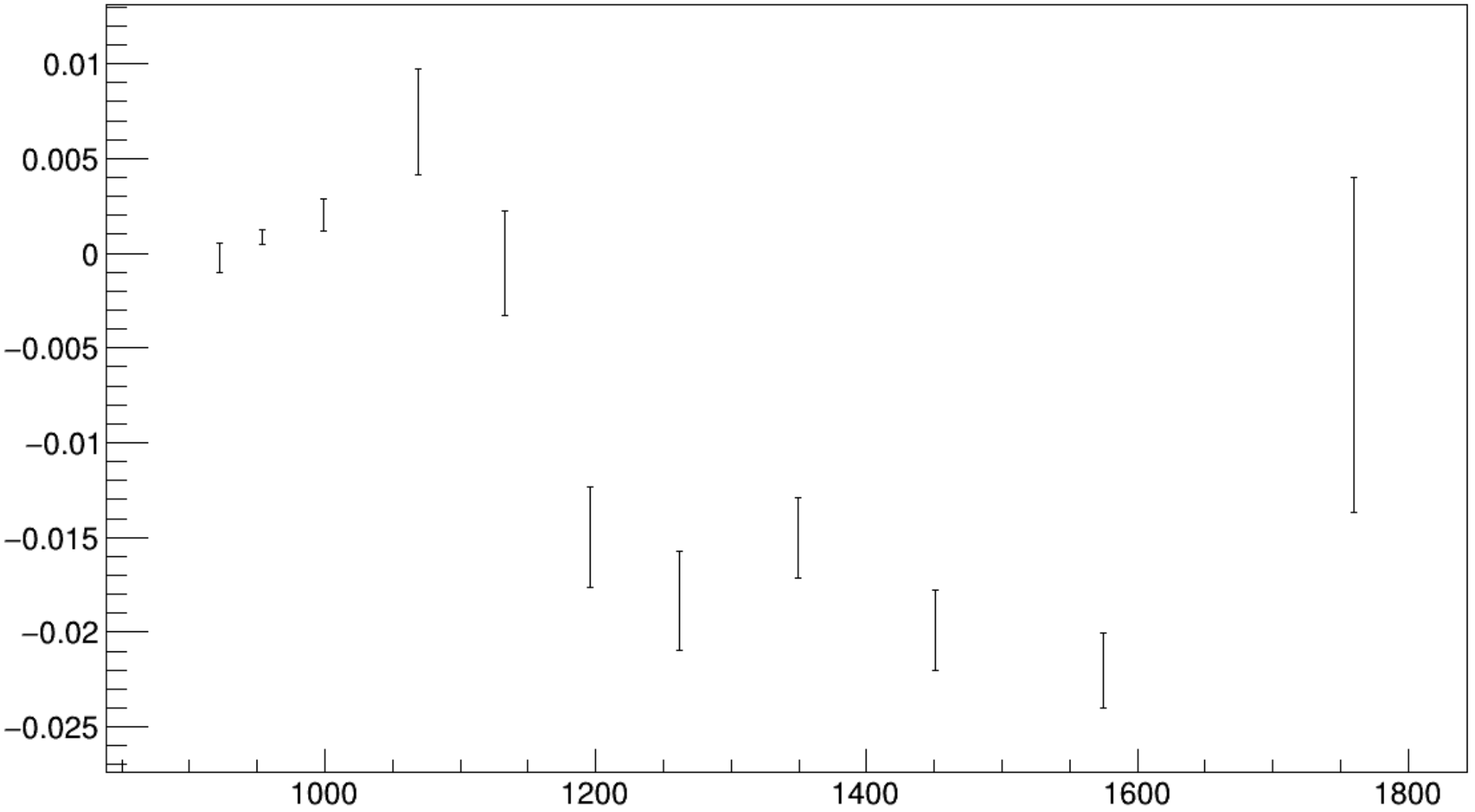




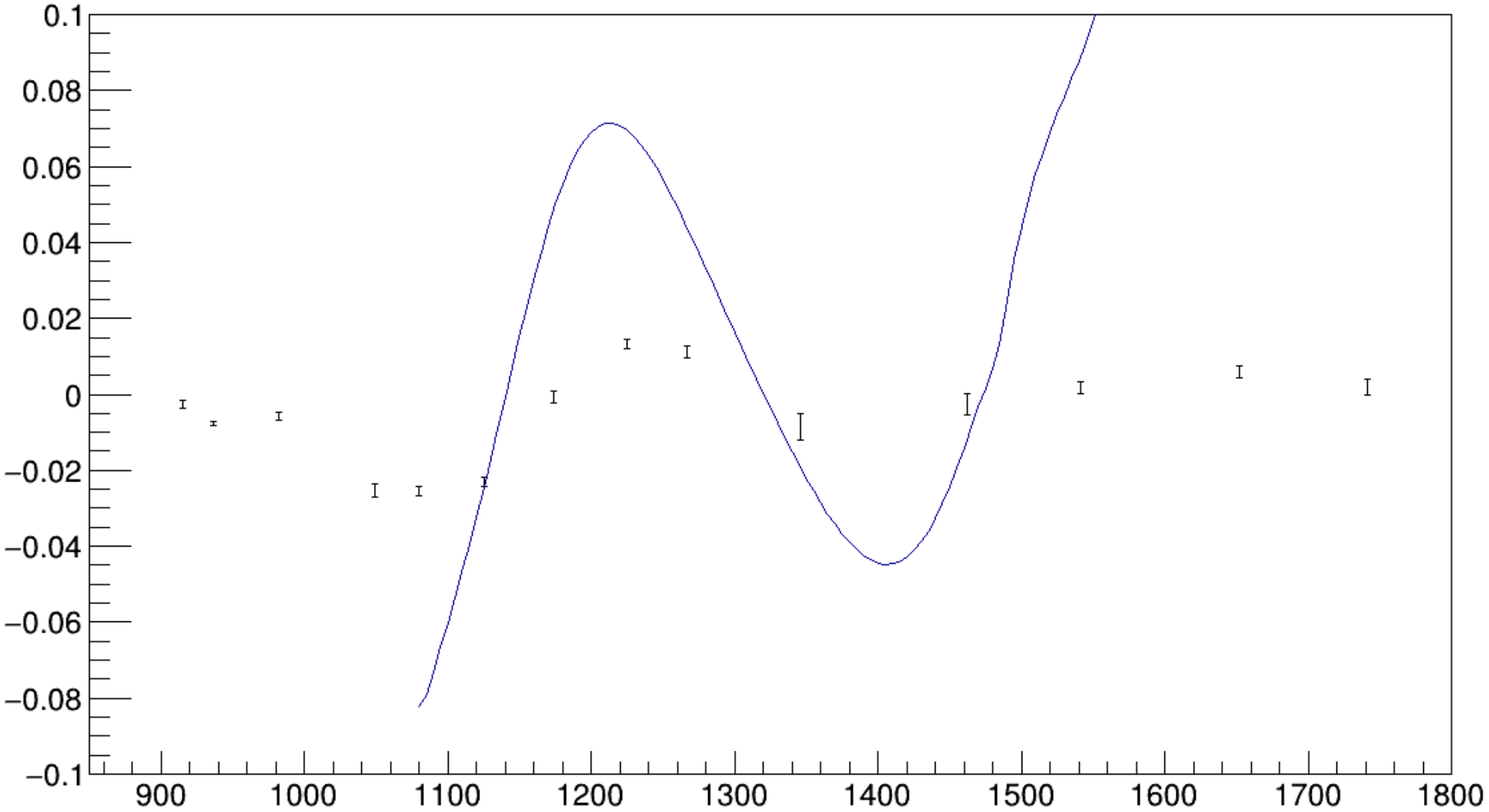
Asymmetry for 2.254GeV, 5T, Longitudinal
Dilution factor use 0.15



Asymmetry for 2.254GeV, 5T, Transverse
Dilution factor use 0.15



Asymmetry for 2.254GeV, 5T, Longitudinal
Dilution factor use 0.15
Q2 choose for MAID is 0.04 GeV2



Asymmetry for 2.254GeV, 5T, Transverse
Dilution factor use 0.15
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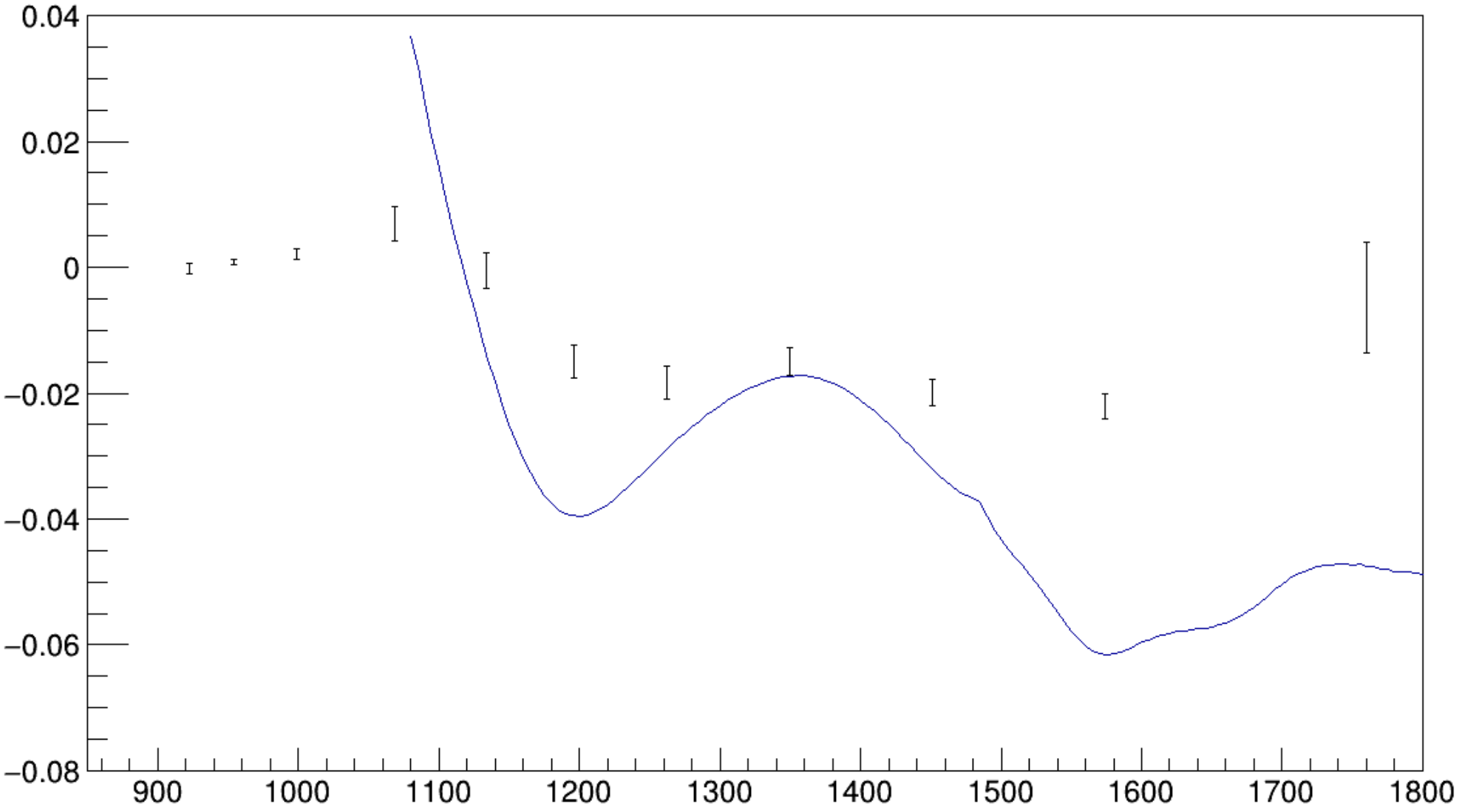

Any suggestions?