

Parameterised Likelihoods

- Time Only $L = \prod_i^{hits} P(t_i; \vec{\theta})$

- Time and Hit information $L = \prod_i^{hits} P(t_i; \vec{\theta}) P(R_i; \vec{\theta})$

- Time, Hit, and Angle information

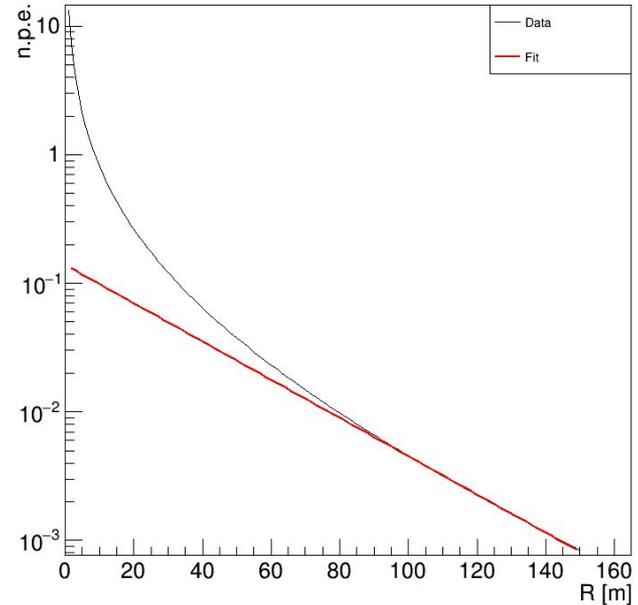
$$L = \prod_i^{hits} P(t_i; \vec{\theta}) P(R_i, \phi_i, \theta_i; \vec{\theta})$$

Parameterised Functions $P(R; \vec{\theta})$

- Integral over t
- Averaged over angles

$$p_0 \times e^{-x/p_1}$$

Exponential Fit

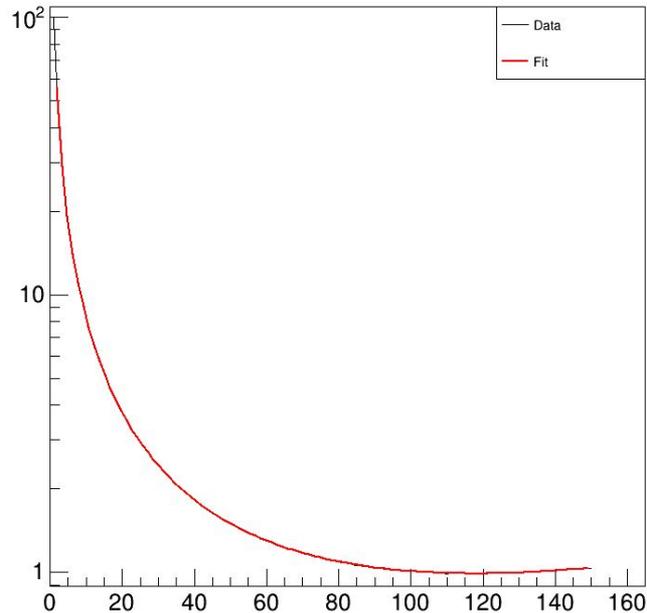


Parameterised Functions

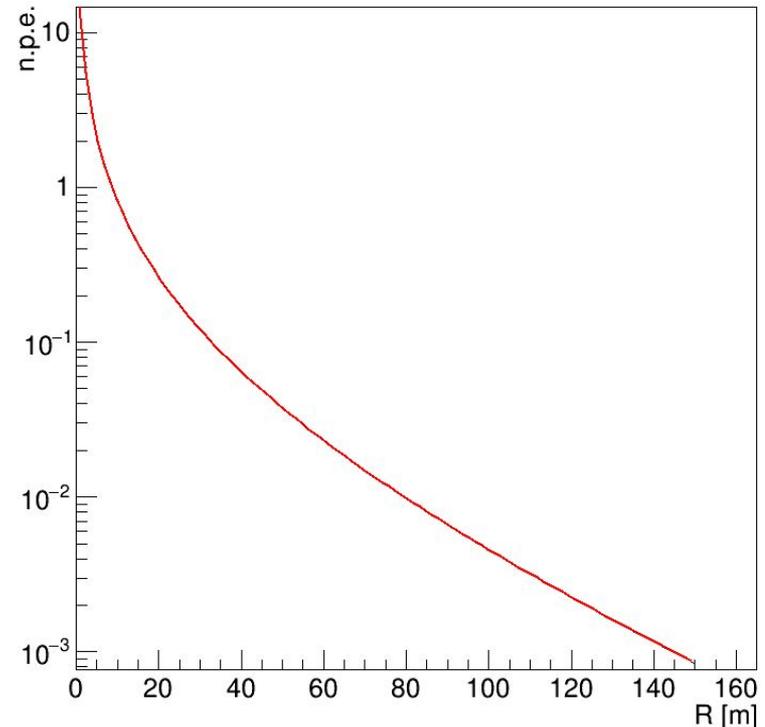
$$P(R; \vec{\theta})$$

$$\frac{p_0 + p_1x + p_2x^2 + p_3x^3 + p_4x^4}{p_5 + p_6x + p_7x^2 + p_8x^3 + p_9x^4}$$

Rational Fit on residual ratio

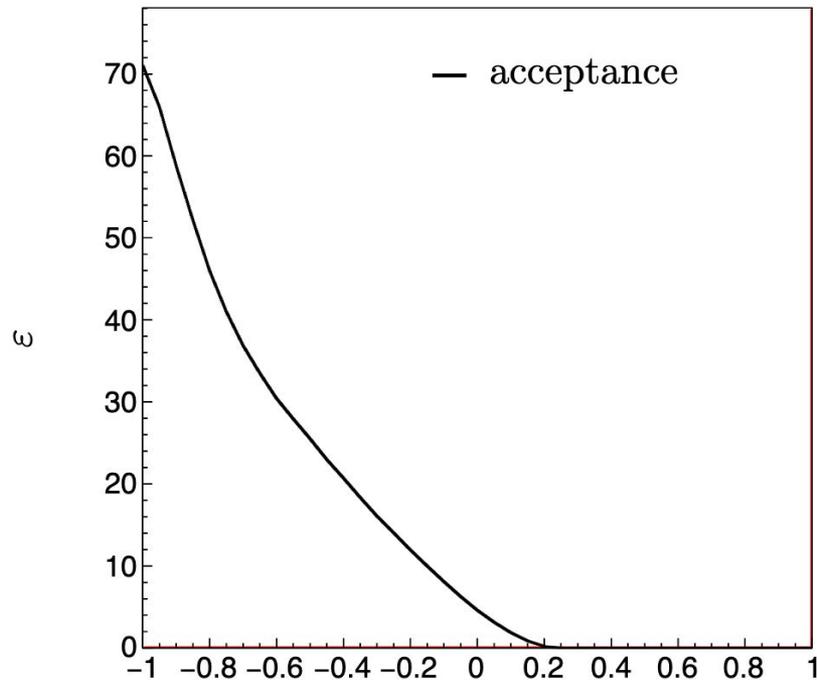
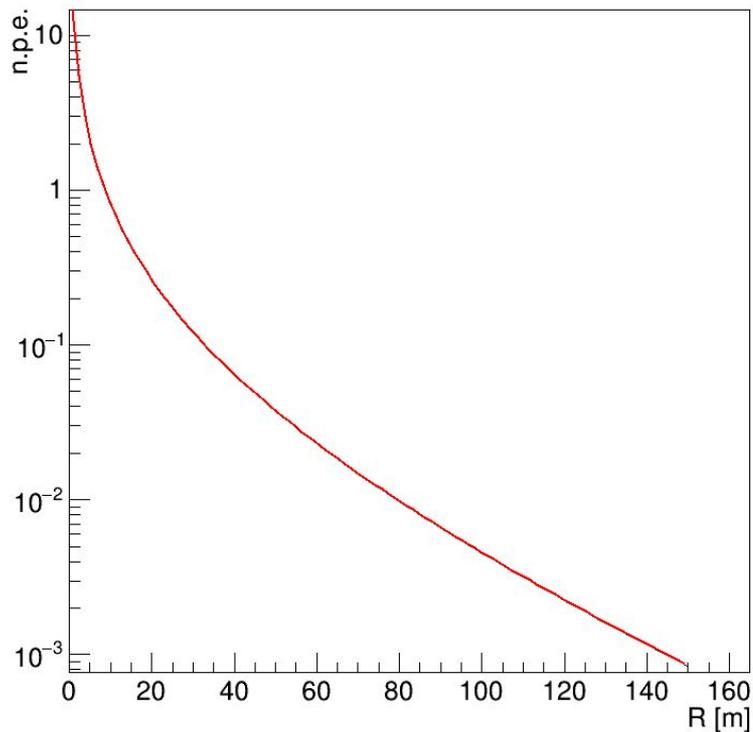


Exponential and rational fit

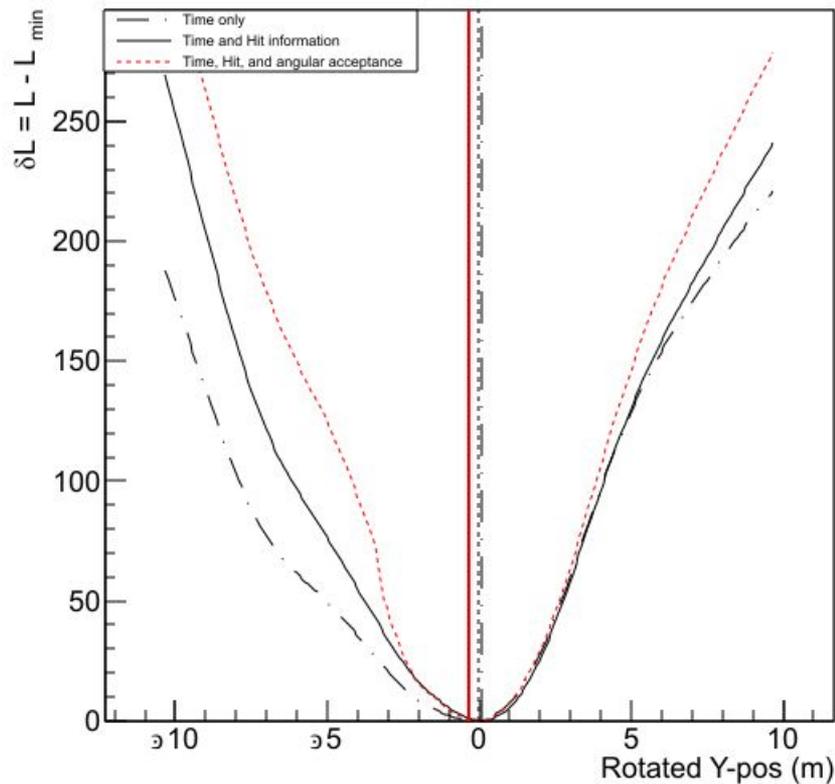
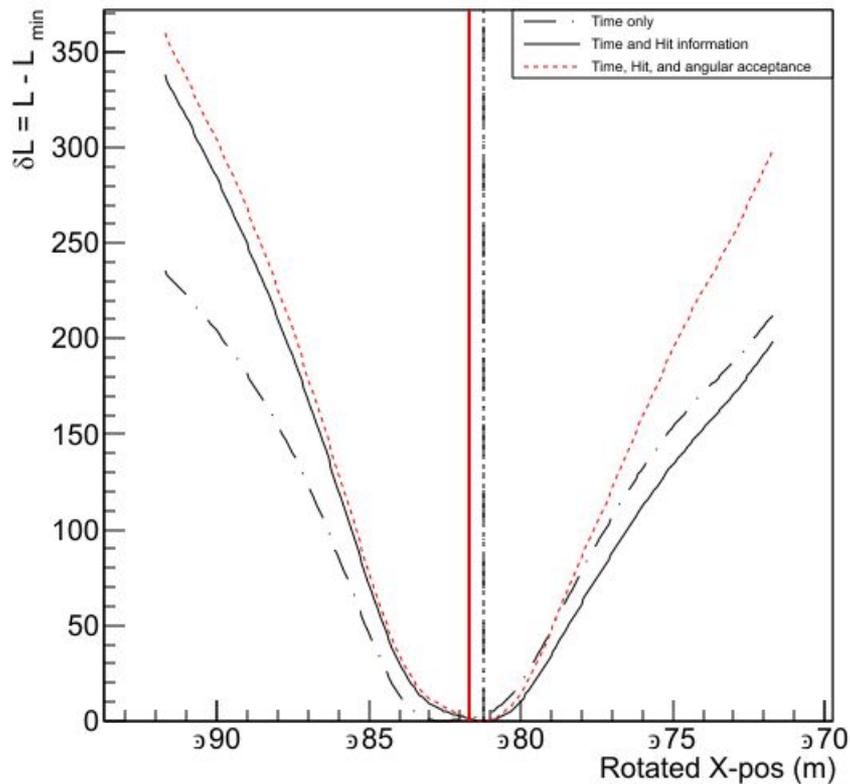


Parameterised Functions $P(R, \phi, \theta; \vec{\theta})$

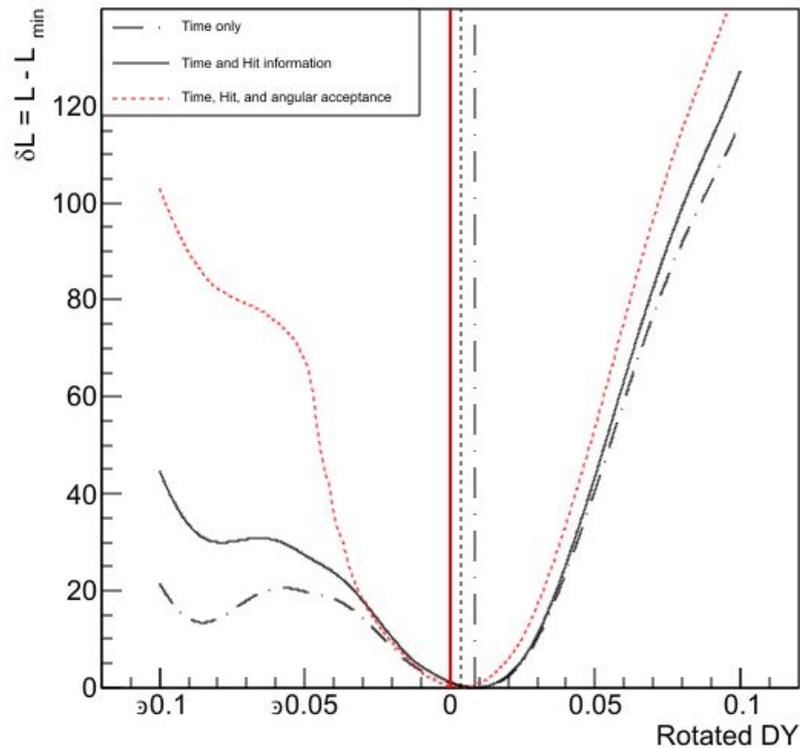
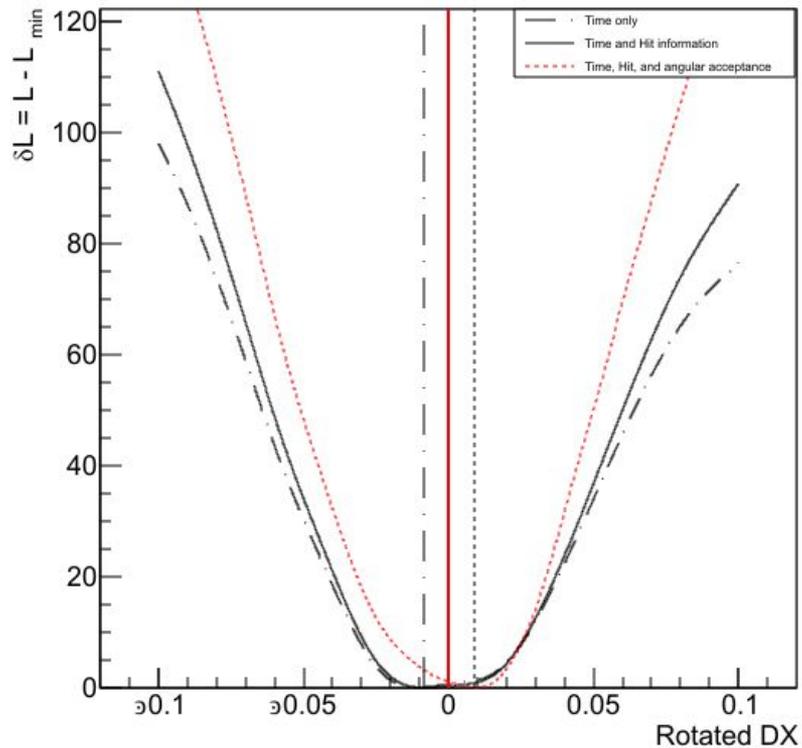
Exponential and rational fit



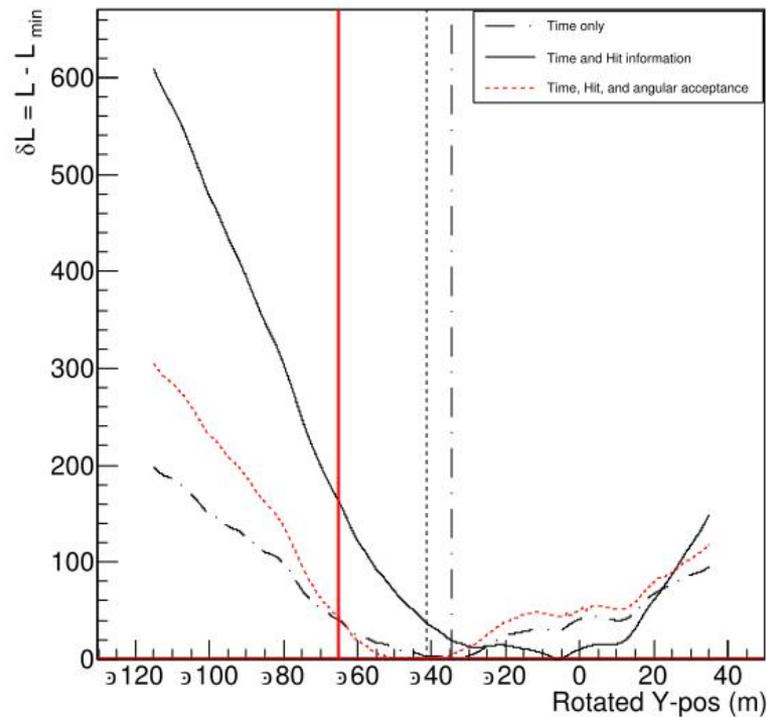
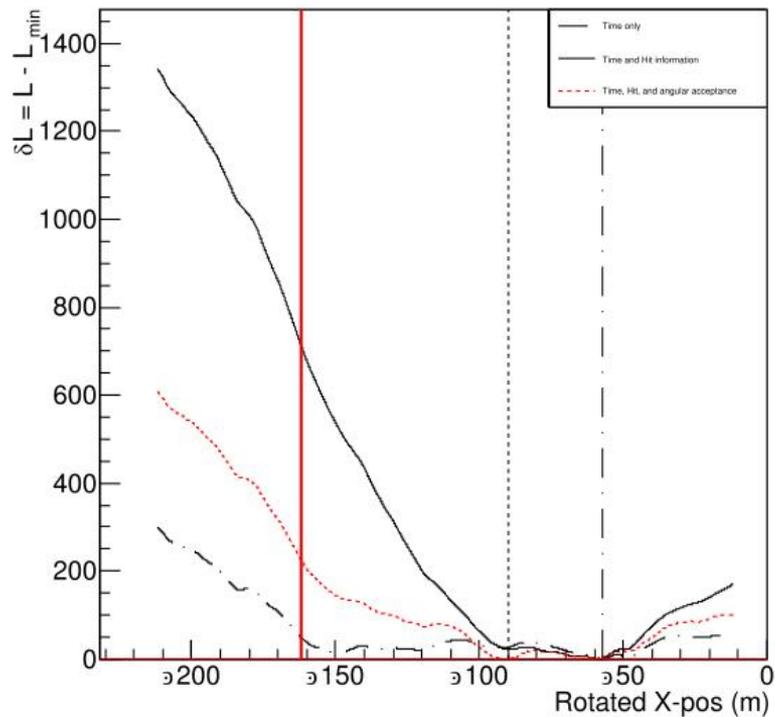
Good Event (reconstructed A.Res 0.066)



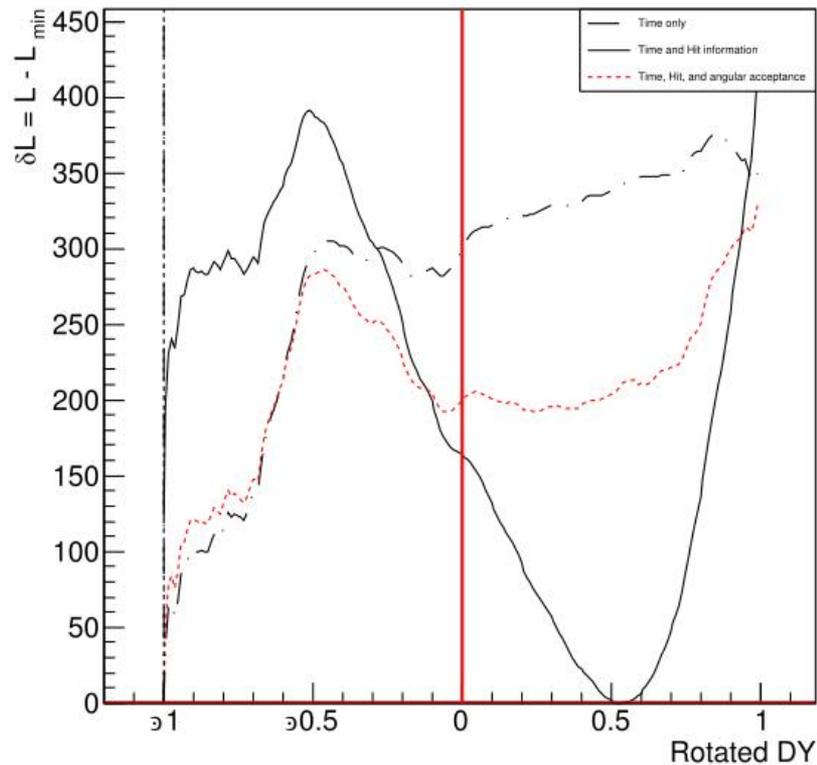
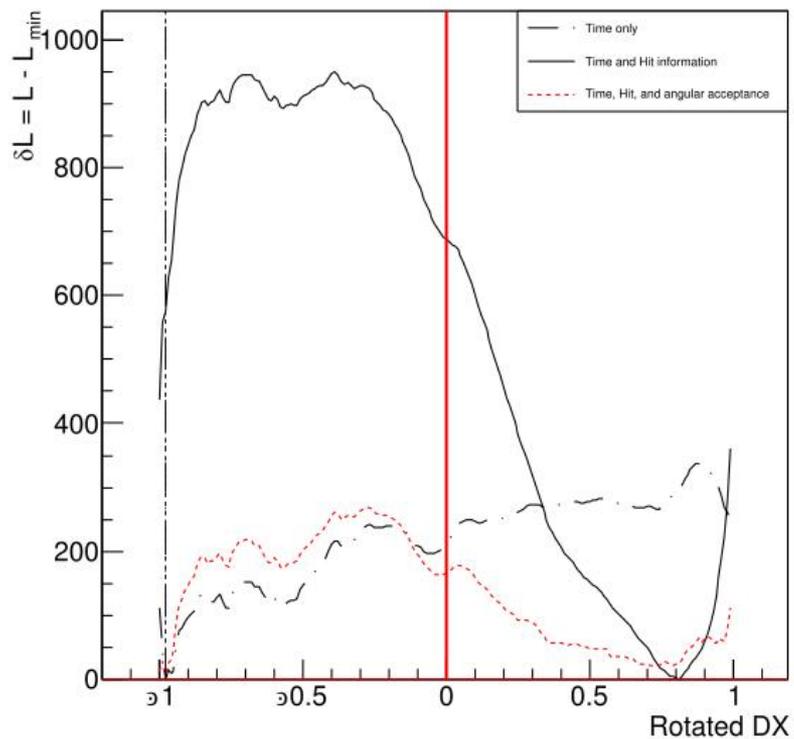
Good Event (reconstructed A.Res 0.066)



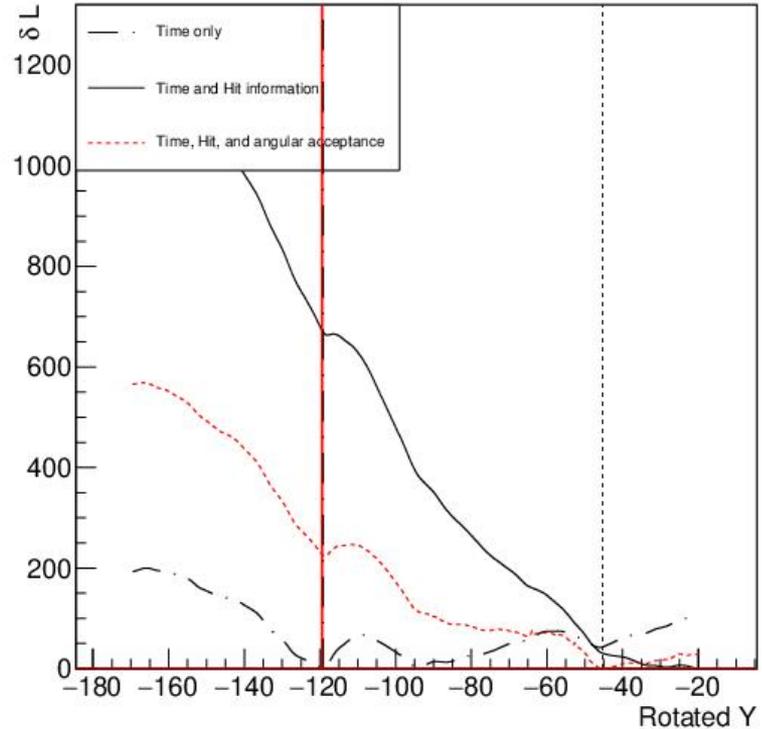
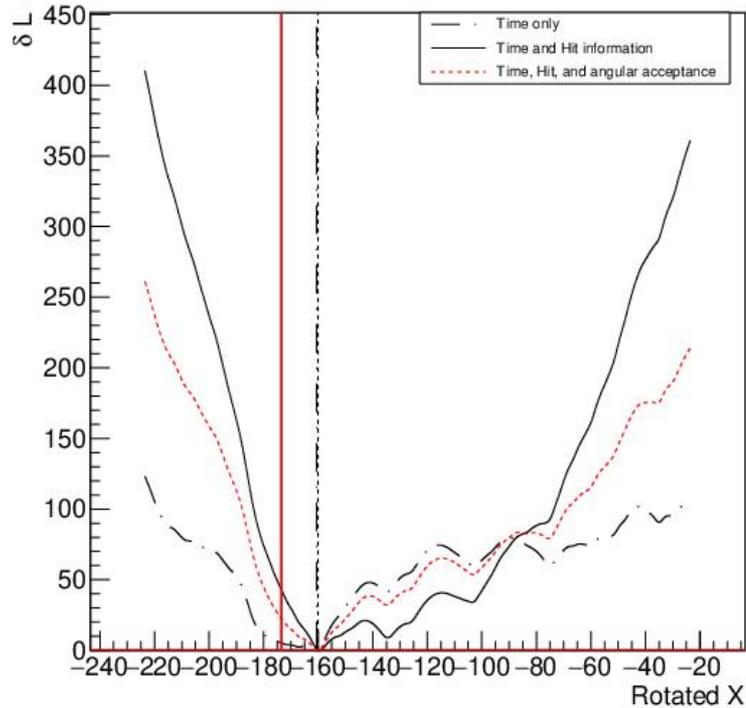
Medium Event (ARES 0.9776817)



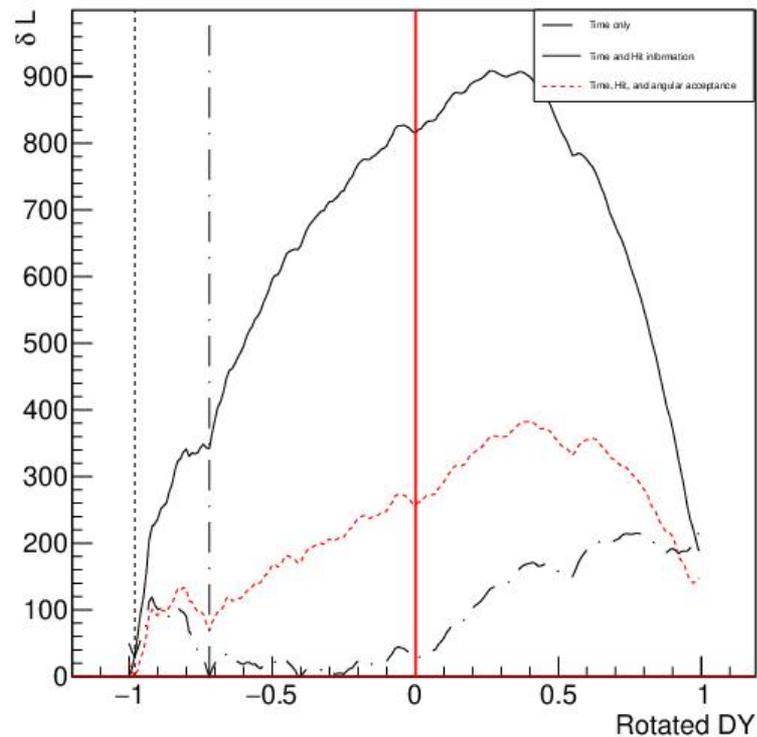
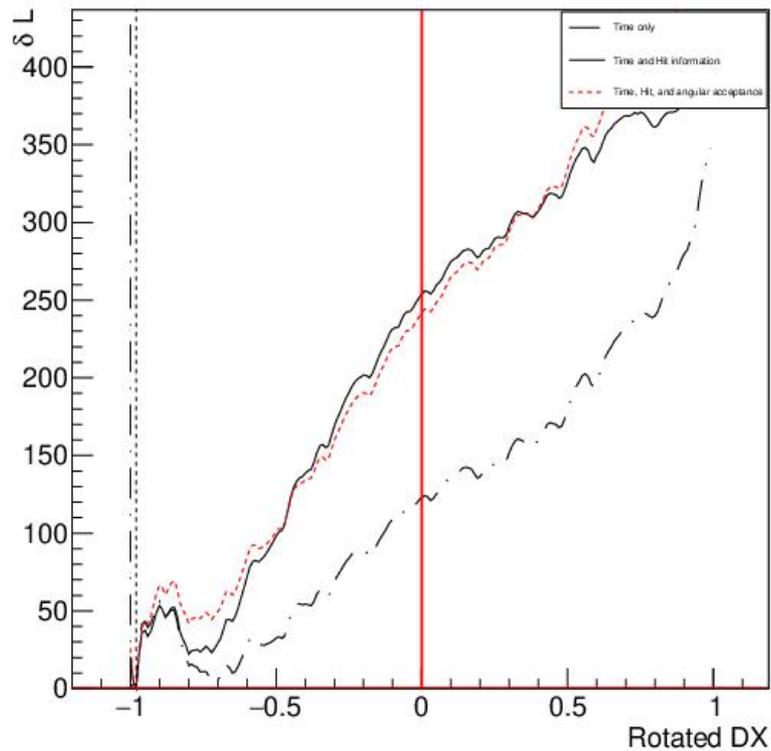
Medium Event (ARES 0.9776817)



Bad Event (ARES 16.6191)



Bad Event (ARES 16.6191)



Ranking

