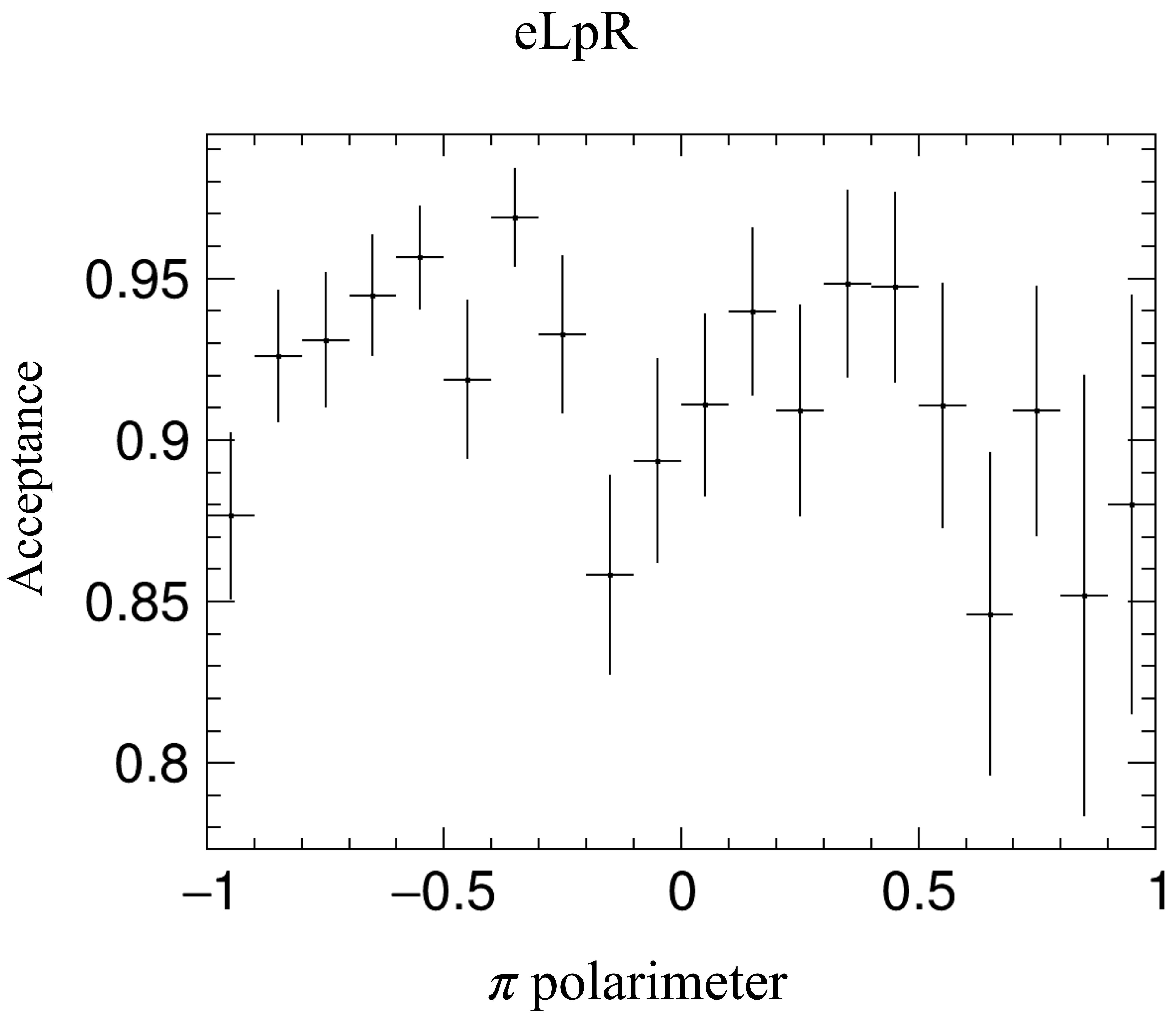
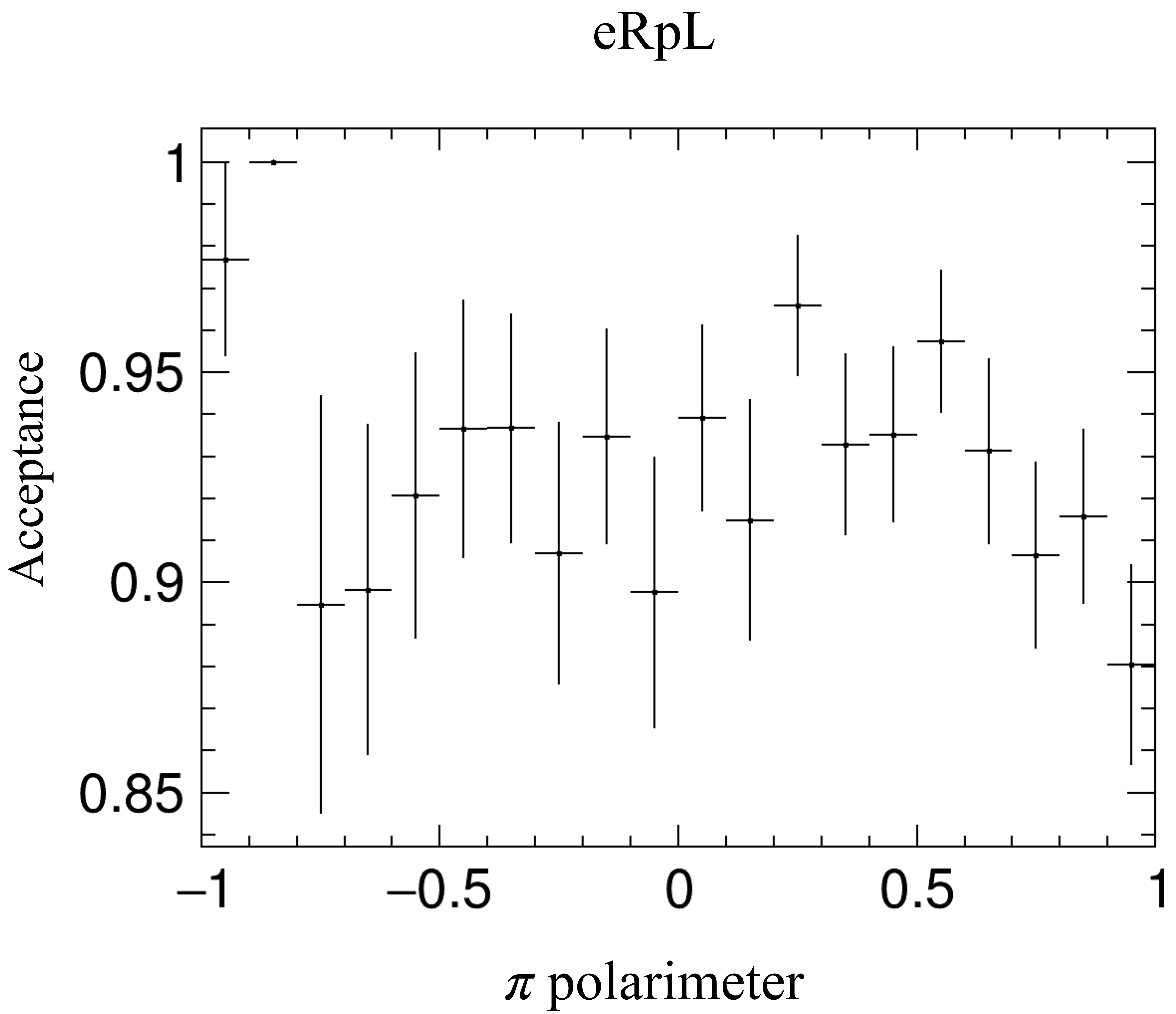
Cone method + Midpoint method

w/ Midpoint method (Cone method + Midpoint method)

w/o Midpoint method (Cone method only)


eLpR
Acceptance
0.8
0.85
0.9
0.95
−1
−0.5
0
0.5
1
π polarimeter


eRpL
Acceptance
0.85
0.9
0.95
1
−1
−0.5
0
0.5
1
π polarimeter

Cone method + Midpoint method

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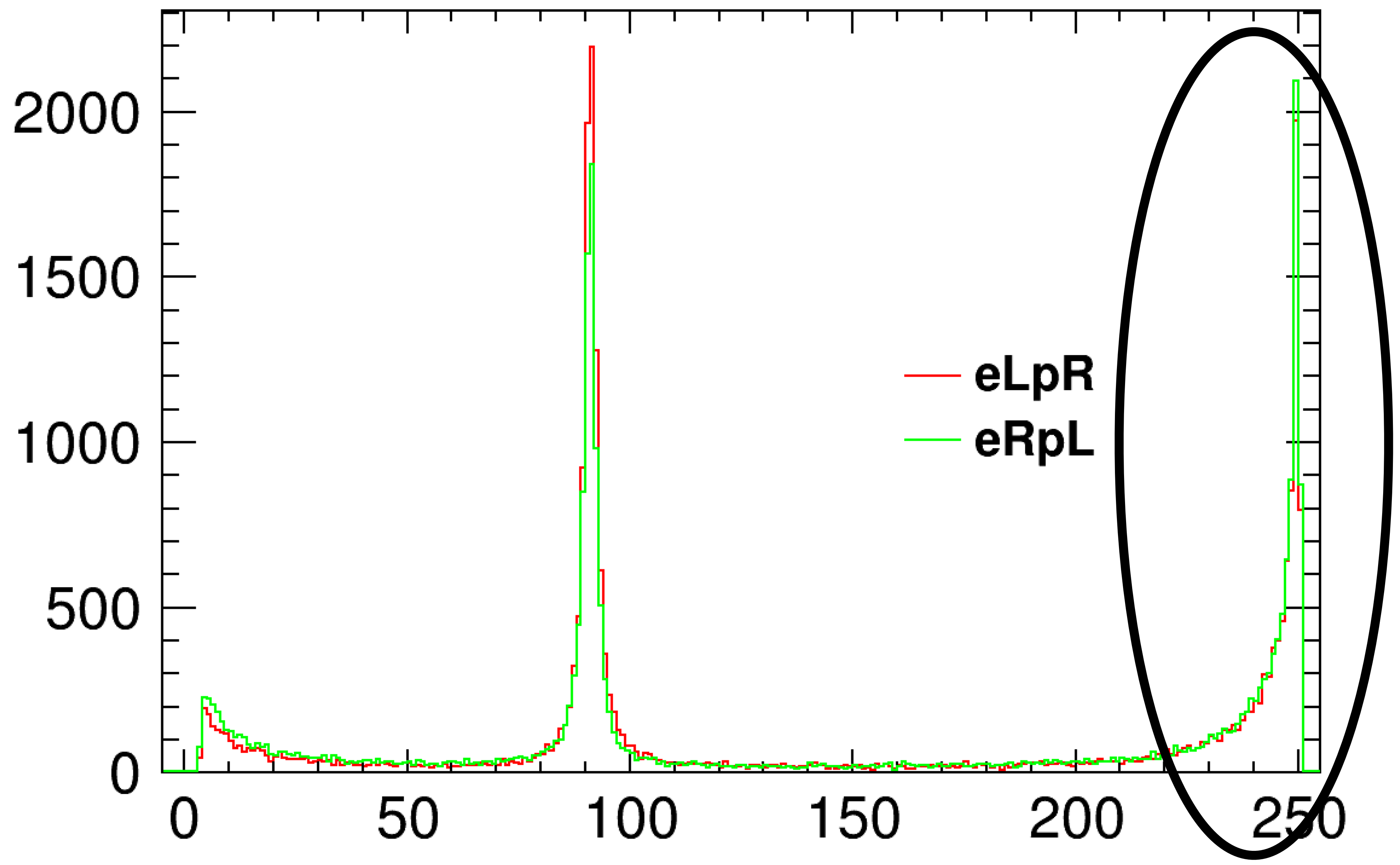
w/o Midpoint method (Cone method only)

eLpR
eRpL
Acceptance
0.95
0.9
0.85
0.8
−1
−0.5
0
0.5
1
ρ polarimeter

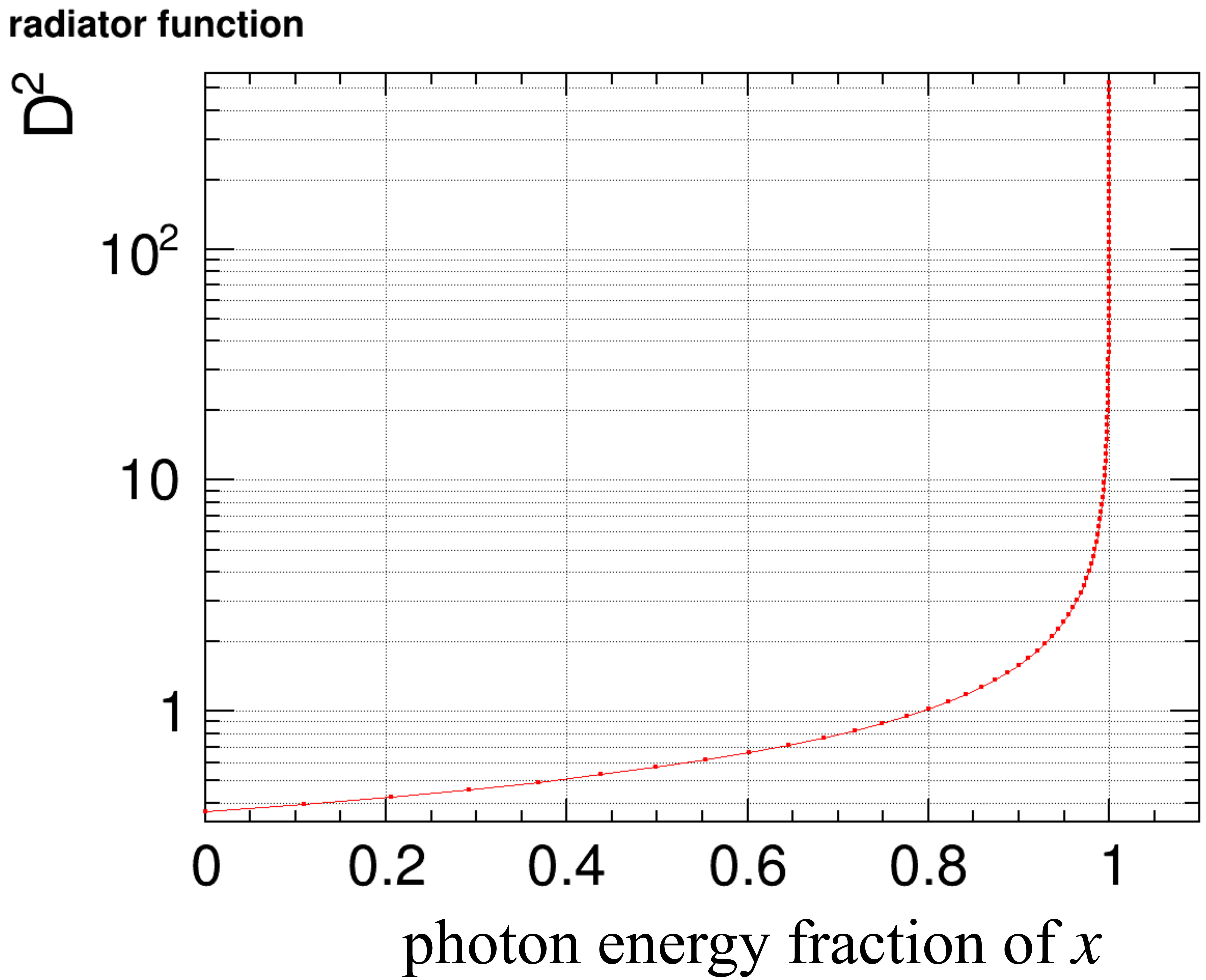
Cone method + Midpoint method

$$D(1-x,s)^2 = H(x,s) = \Delta_2 \beta x^{\beta-1} - \Delta_1 \beta \left(1 - \frac{x}{2}\right) + \frac{\beta^2}{8}\Bigg[-4(2-x)\log x - \frac{1+3(1-x)^2}{x}\log(1-x) - 2x \Bigg]$$



Fujimoto, J., Kurihara, Y. & Quach, N.M.U.

https://doi.org/10.1140/epjc/s10052-019-7026-7



$D(1-x,s)$: the probability of emission of a photon with an energy fraction of x at the $\sqrt{s}$

Plan

Cone + Midpoint method works well so far

Next:

- Using MC-linked PFO and w/o any cheat
- Need further investigation…
- Think about New physics (that I had put on hold…) SMEFT

  parameter: $Q_{Hl}^{(1)}$, $Q_{Hl}^{(3)}$, Q_{ll} , Q_{ledq} , Q_{le} , Q_{ee} , Q_{eW} , Q_{eB}

  From Table 1 : arXiv:2012.11343
- Fitting a Radiator Function to $m_{\tau\tau}$
- Hidaka-san's request : schematic image of polarimeter vector for rho decay