ECal background (Al window)

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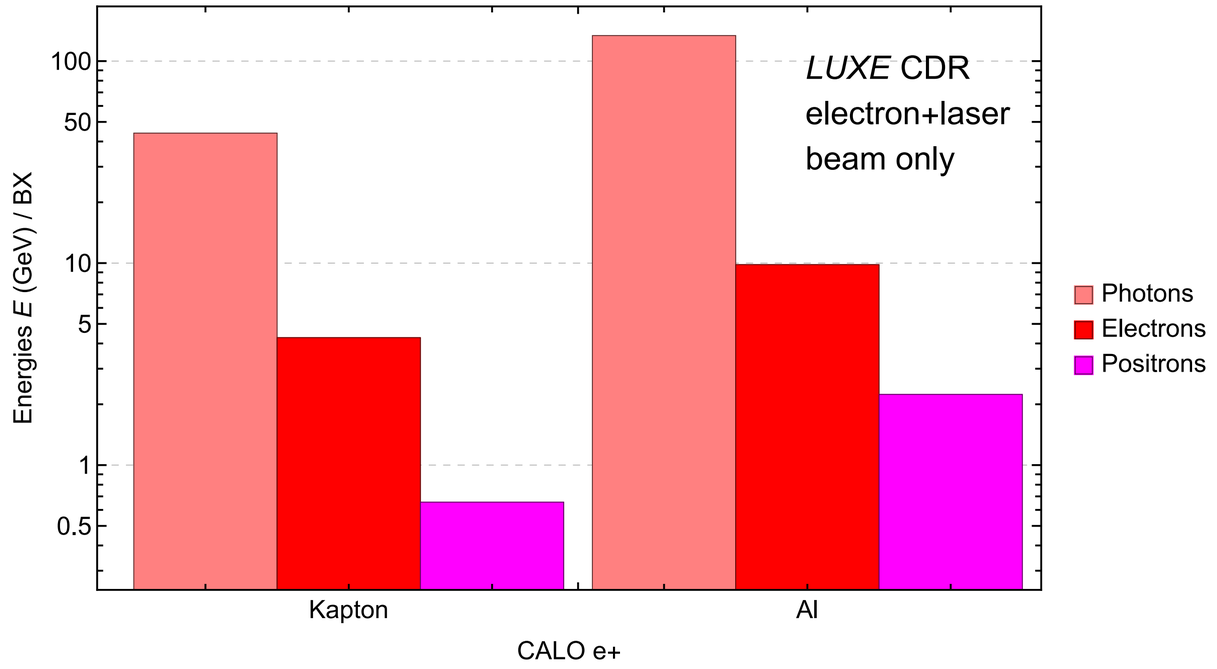
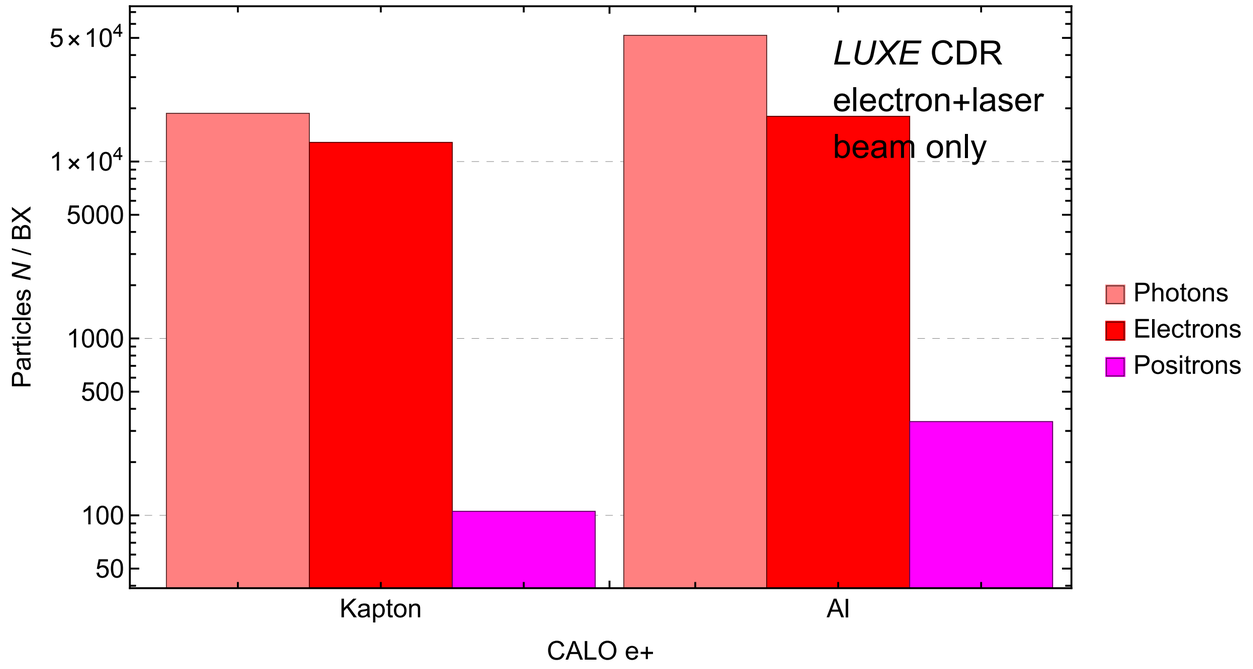
- BG particle/energy counts
- Energy Resolution
- Position Resolution

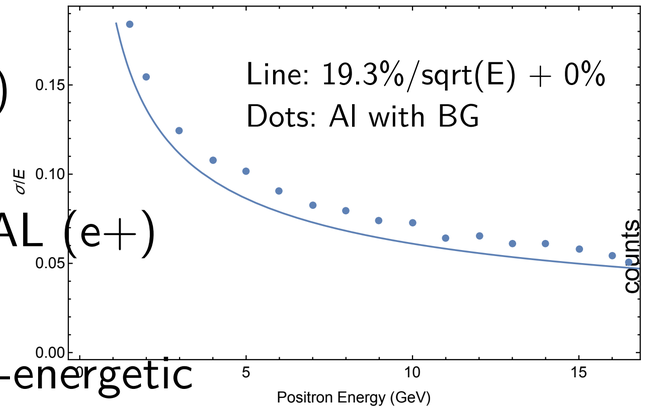
CDR Fig. 5.13 (electron-laser)

BG Particles and their energies entering the ECAL (e+) from the front



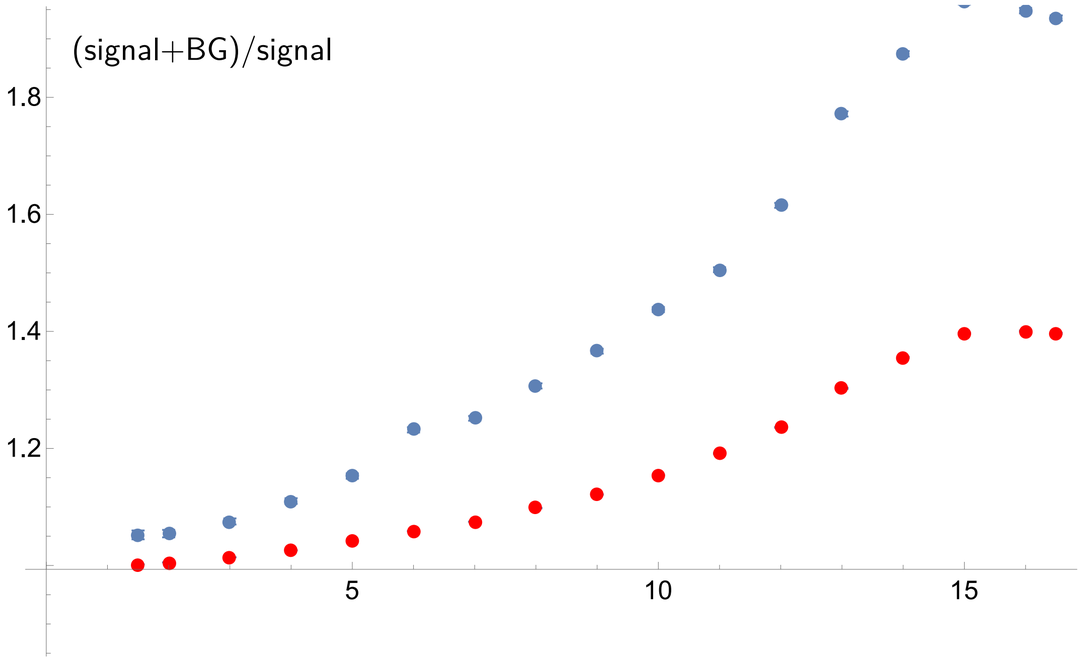


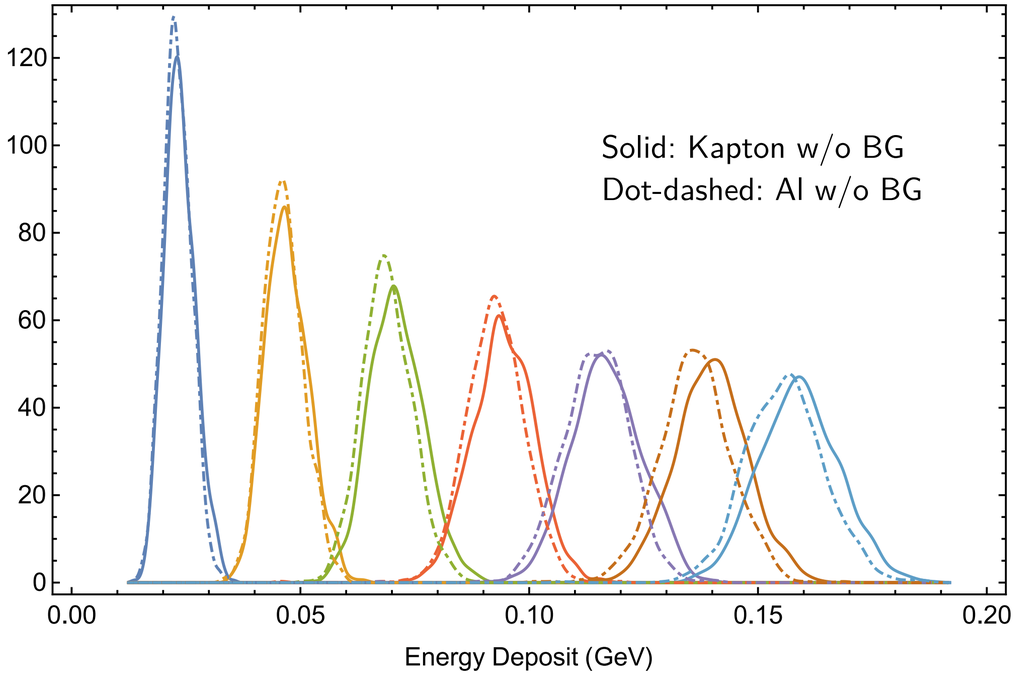
CDR Fig. 6.19a/6.20 (electron-laser)

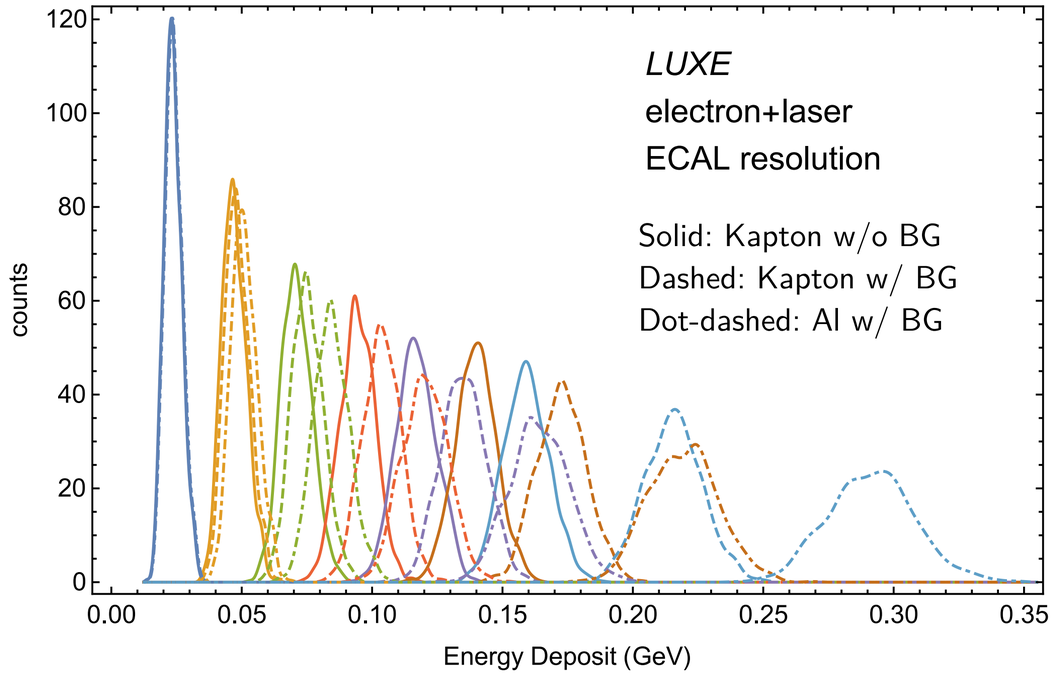


Energy deposit resolution of the ECAL (e+)
w/ or w/o BG particles

- Results obtained from 1000 mono-energetic positrons shooting from the IP
- BG are added only on the pad with signal



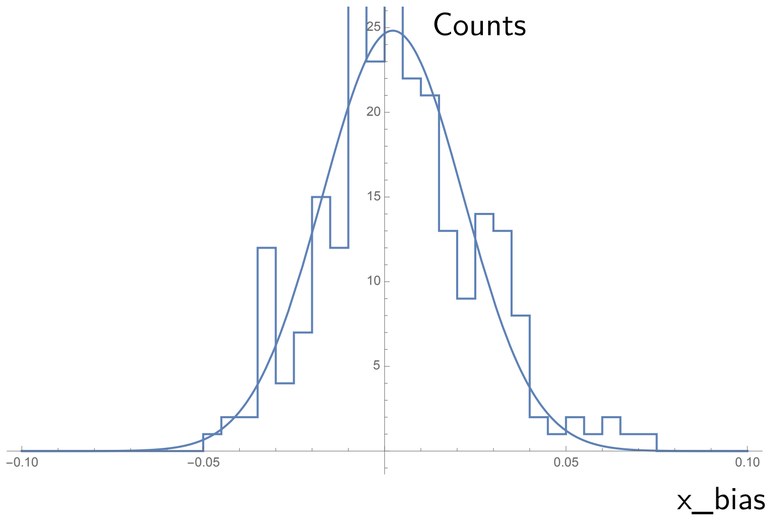


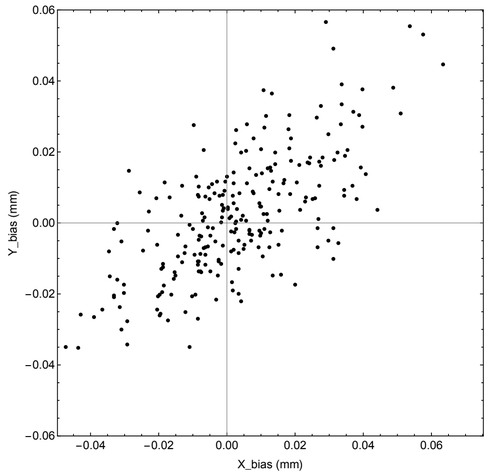


Position resolution with neural network

CDR Fig. 6.19b (electron-laser)

Position resolution (w/o?) of 10 GeV positron





Traditional ways	X_bias = 1.23 ± 0.59 mm Y_bias = -0.01 ± 0.46 mm
NN	X_bias = 0.004 ± 0.021 mm Y_bias = 0.003 ± 0.019 mm

- Training based on 750 samples of 10 GeV *GEANT4* files
- Testing by the rest 250 examples
- Bias and variance along Y direction largely suppressed
- No angular effect along X direction
- Cov(X_bias, Y_bias) is significant (bias no longer independant)
- Could be bias based on bias