GNN for Water Cherenkov Detector

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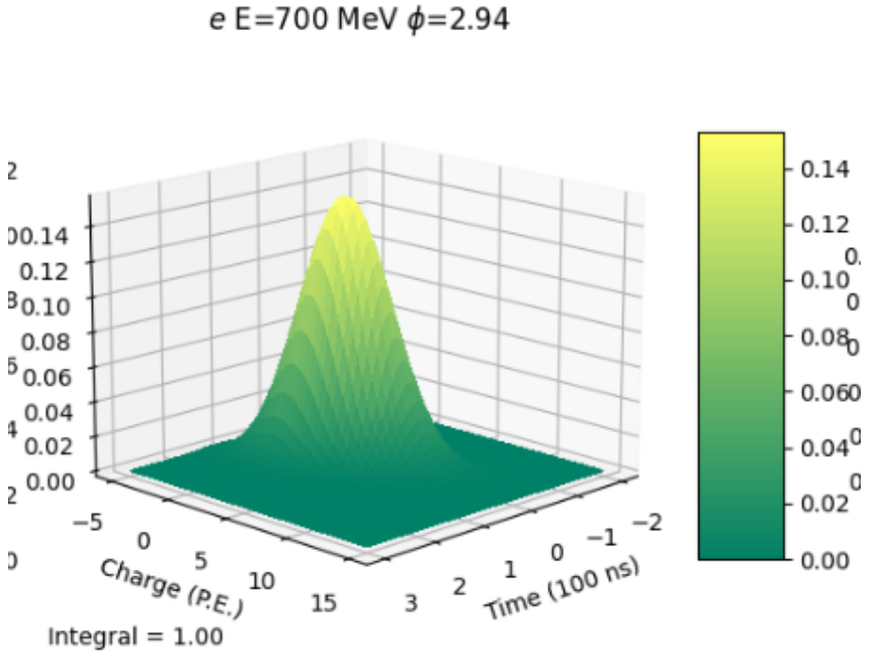
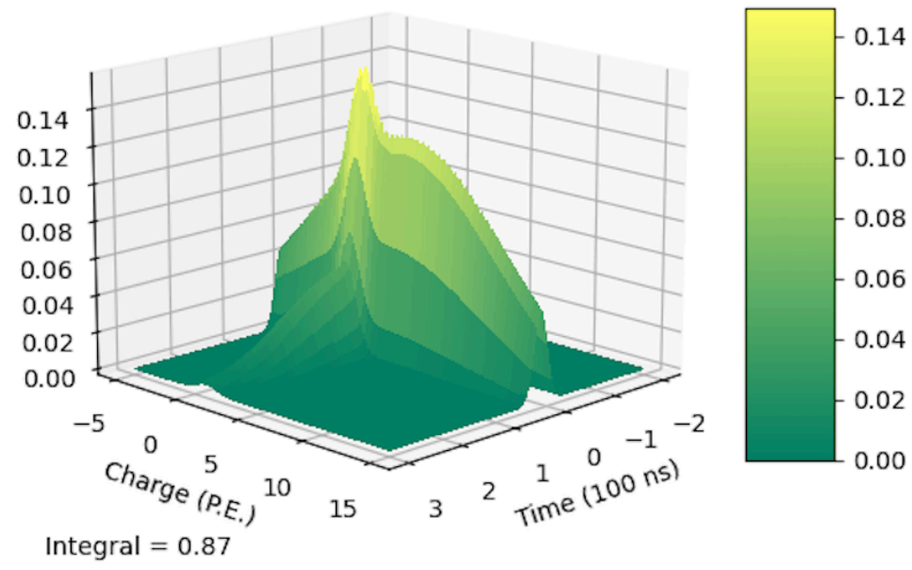
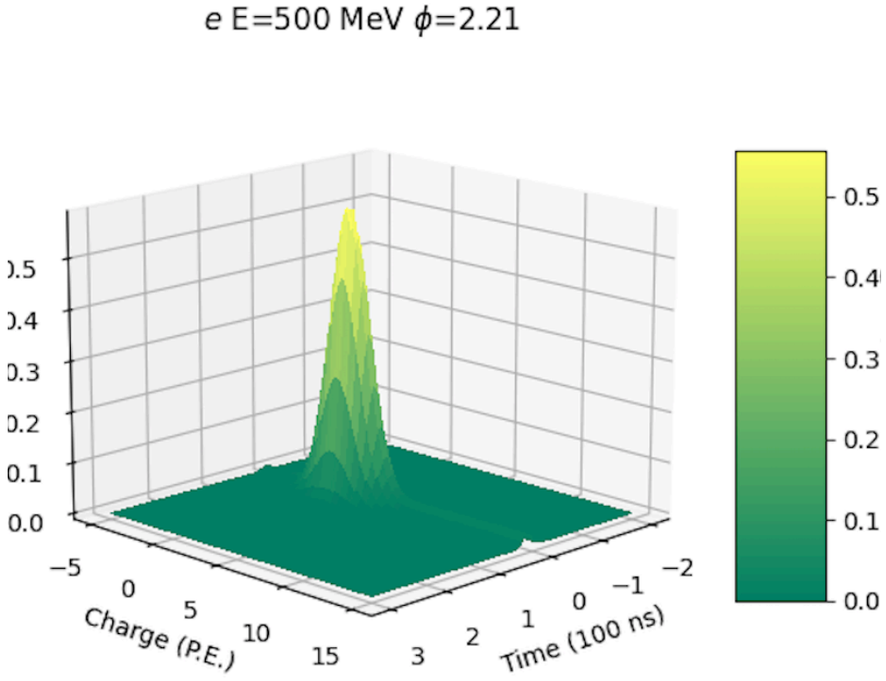
Homework

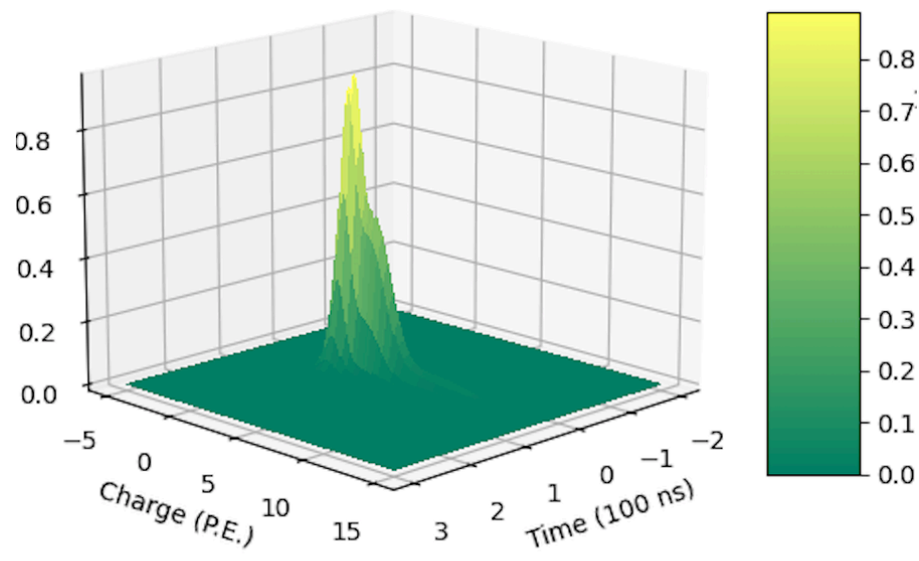
The normalization of 2D gaussians are roughly okay.

Integral by surface value * bin width in both directions

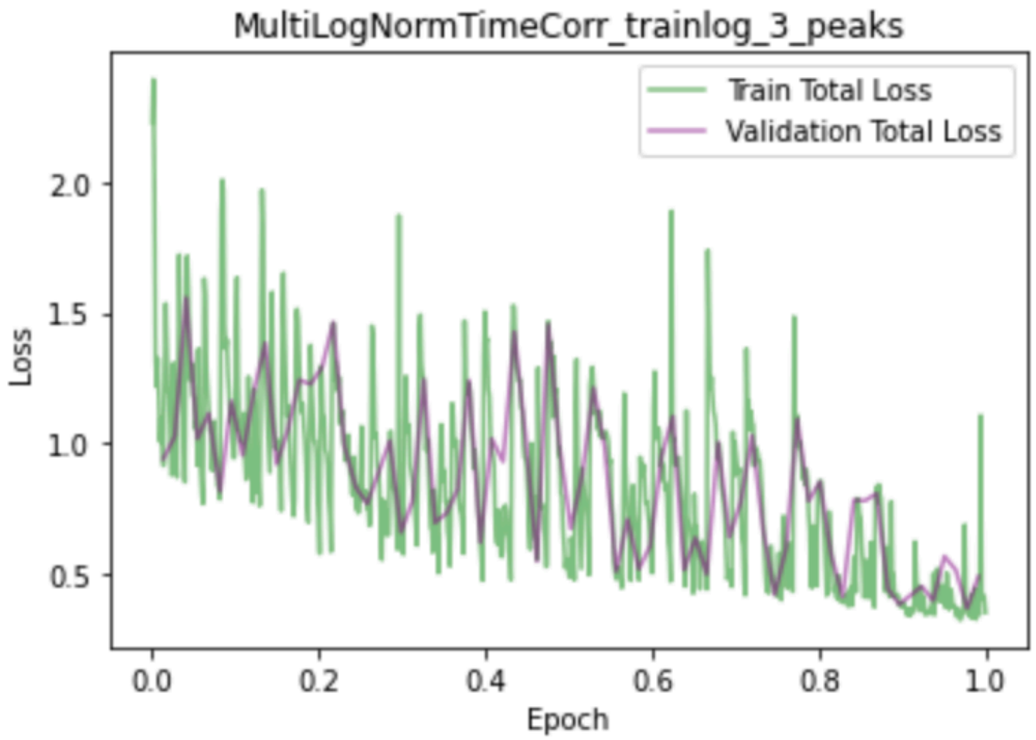


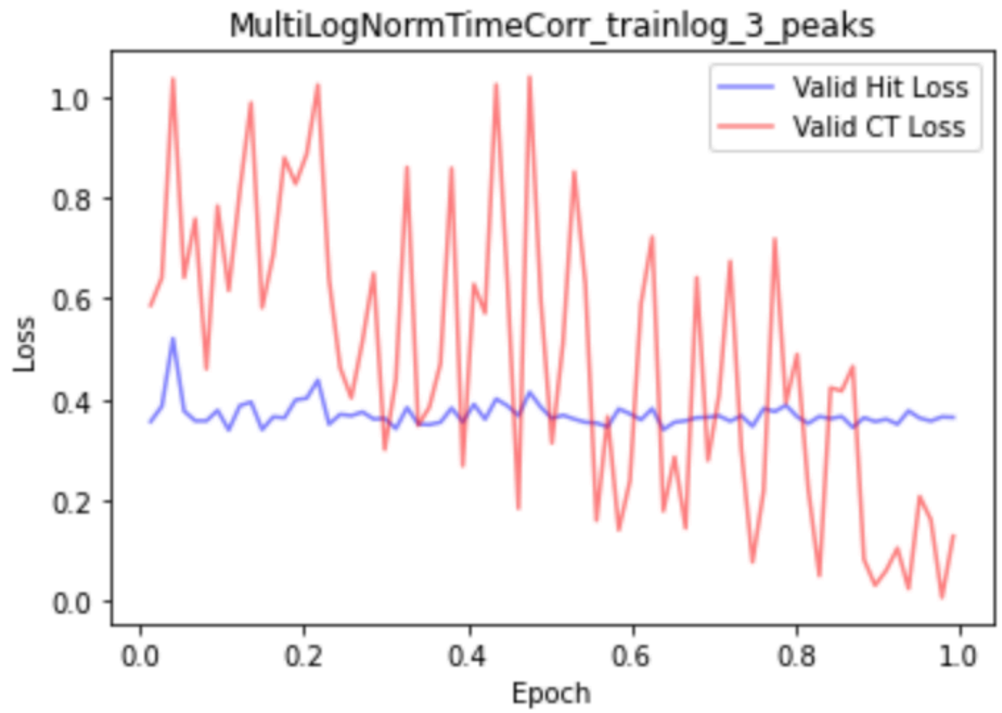






Correlated 2D LogNormal





$$p_Y(y) = (2\pi)^{-n/2}(\det\Sigma)^{-1/2}\prod_{j=1}^{n} y_j^{-1}\exp\left(-\frac{1}{2}(\ln(y)-\mu)^t\Sigma^{-1}(\ln(y)-\mu)\right)$$

- PDF similar with Gaussian's, but one extra term
- Really unstable loss, probably something wrong in my implementation
- Exploded for >3 peaks, 3 trainings underway.