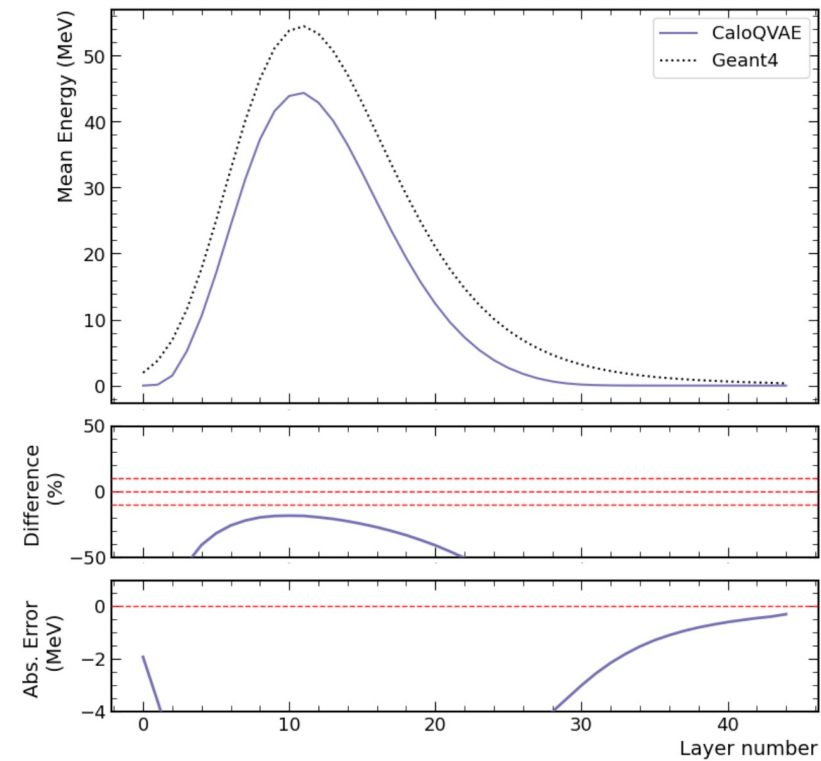
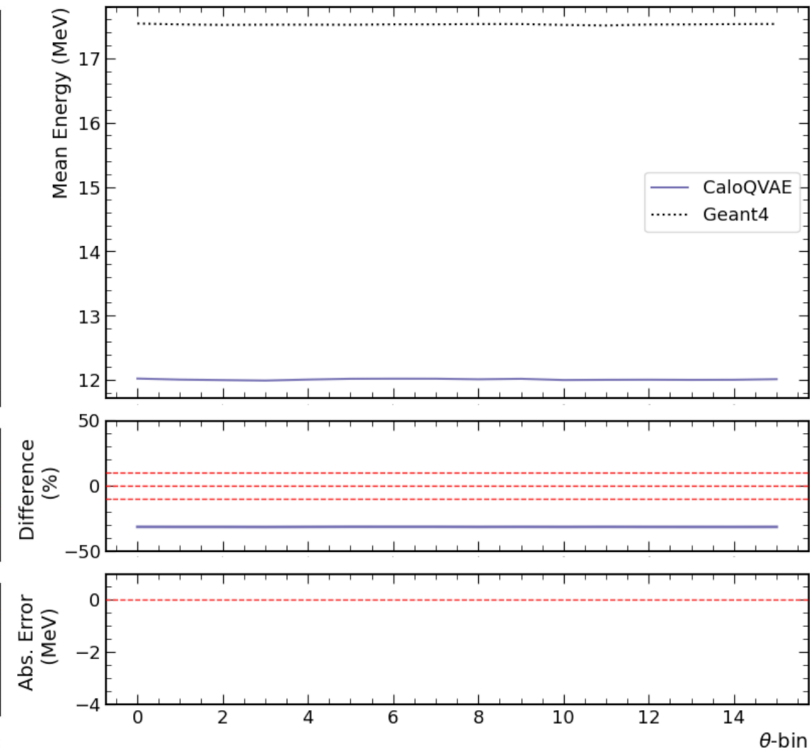
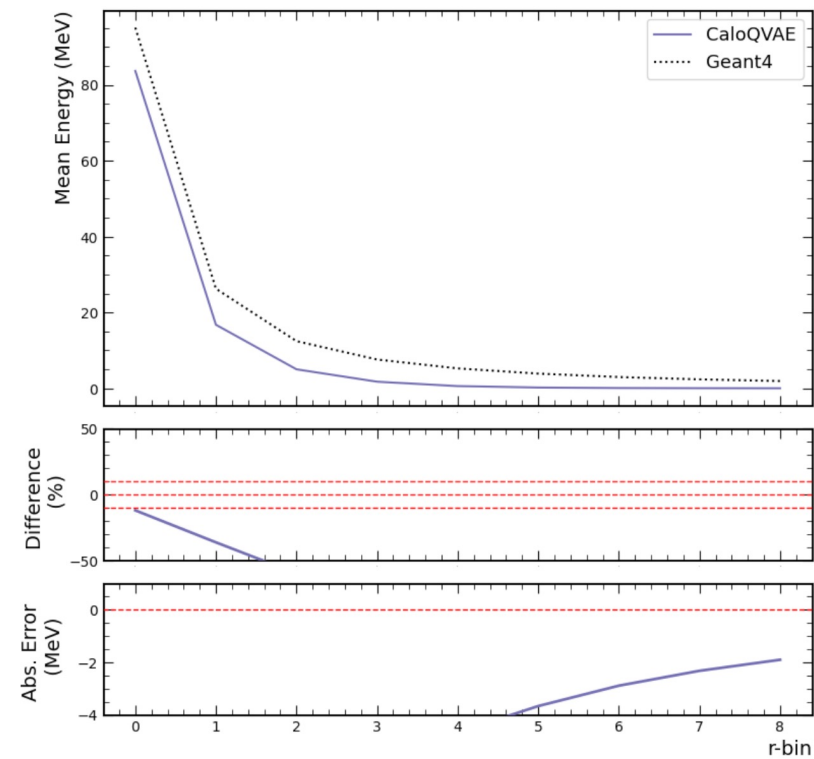


Chi-Squared MSE Loss

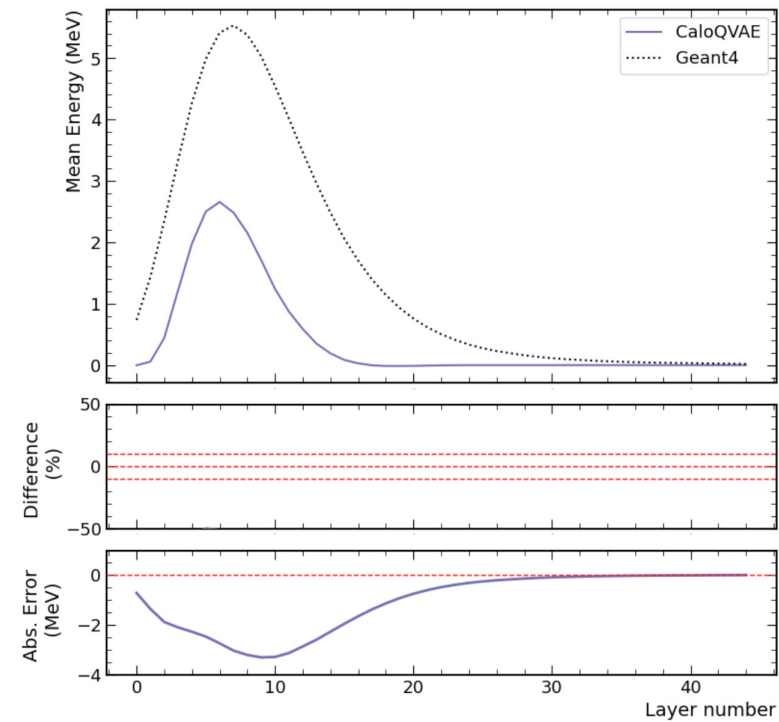
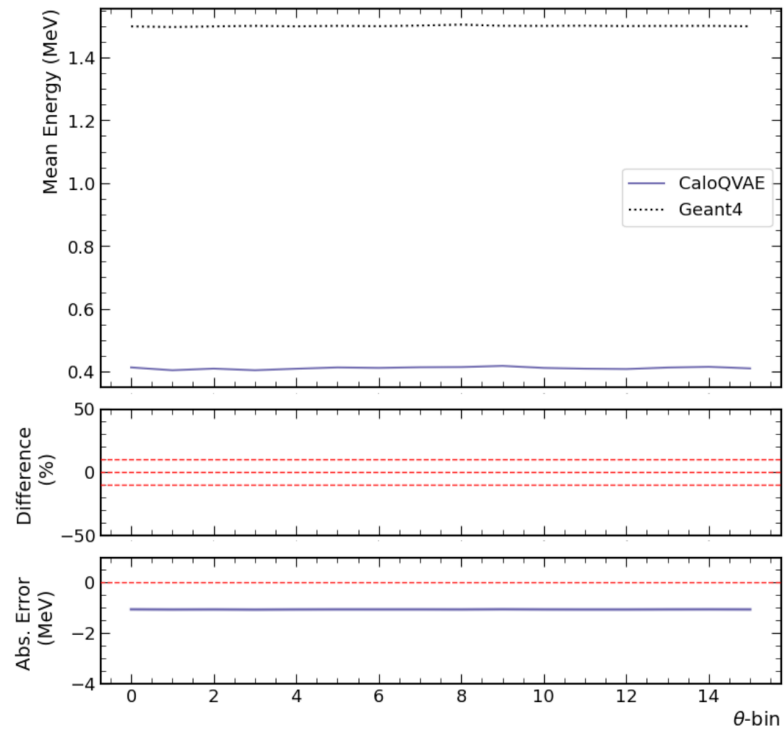
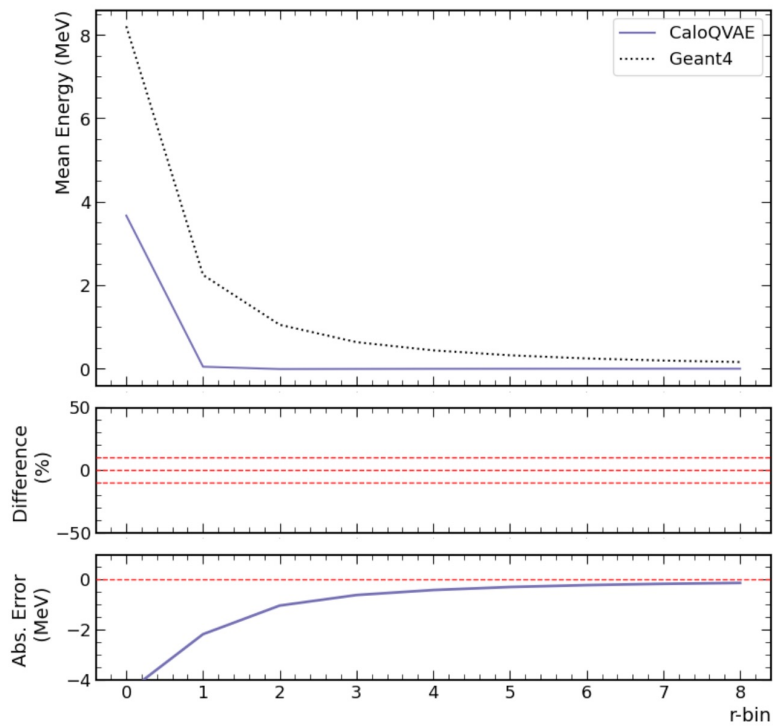
Mitigate Energy-magnitude biases

```
sigma = 2 * torch.sqrt(torch.max(input_data, torch.min(input_data[input_data>0])))
interpolation_param = 0
ae_loss = torch.pow((input_data - fwd_out.output_activations)/sigma,2)
          * (1 - interpolation_param + interpolation_param*torch.pow(sigma,2))
          * torch.exp(self._config.model.mse_weight*input_data)
```

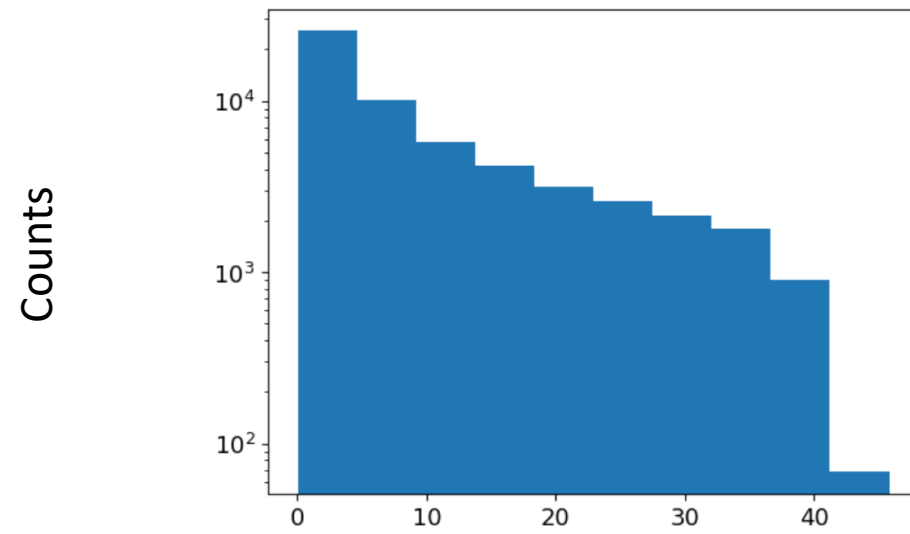
Total Energy Spectrum plots



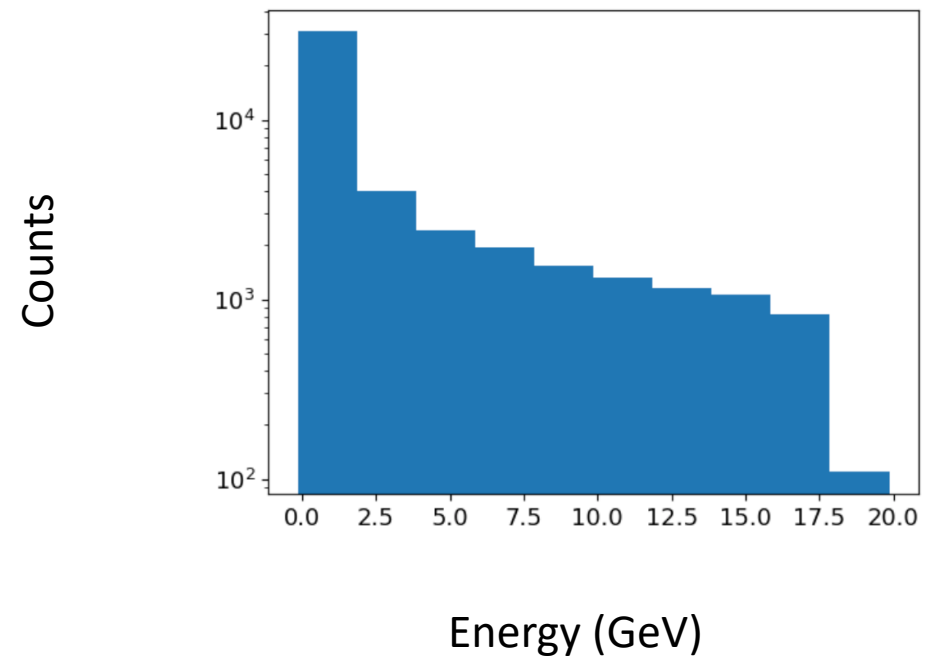
Low-Energy (0-50 GeV) plots



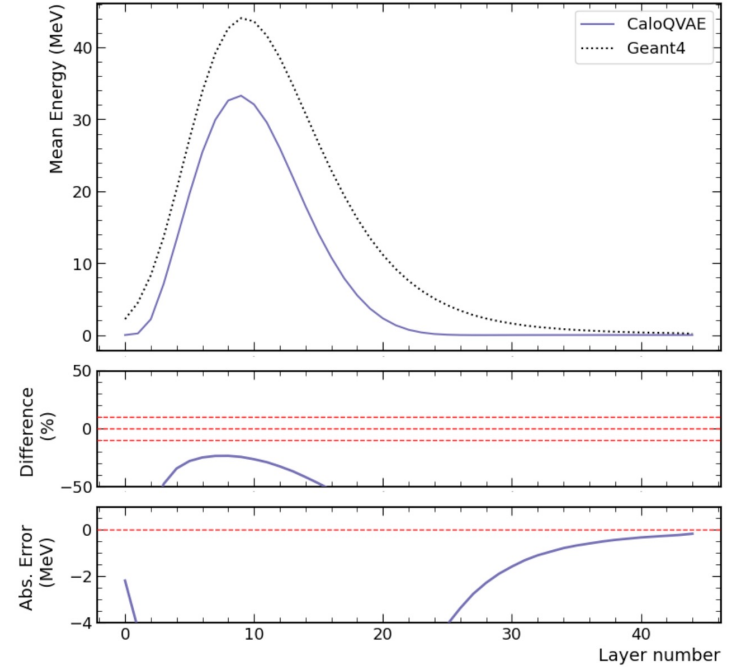
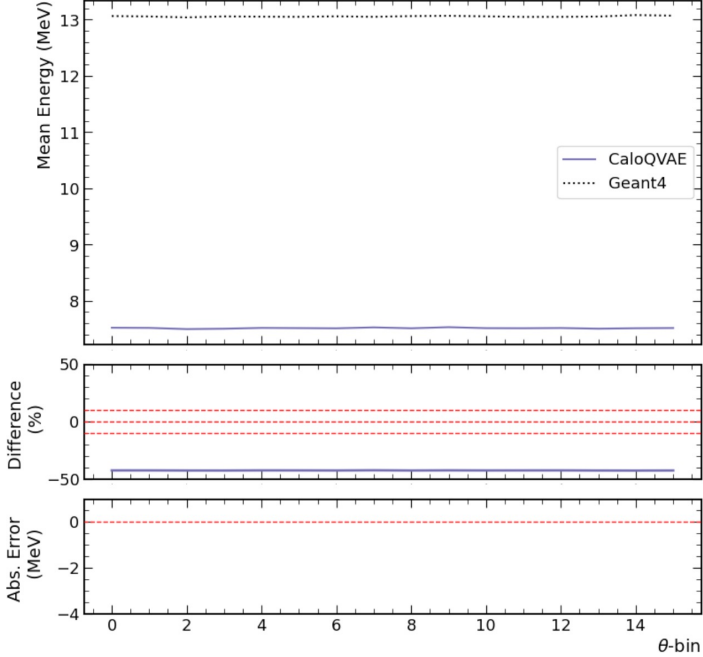
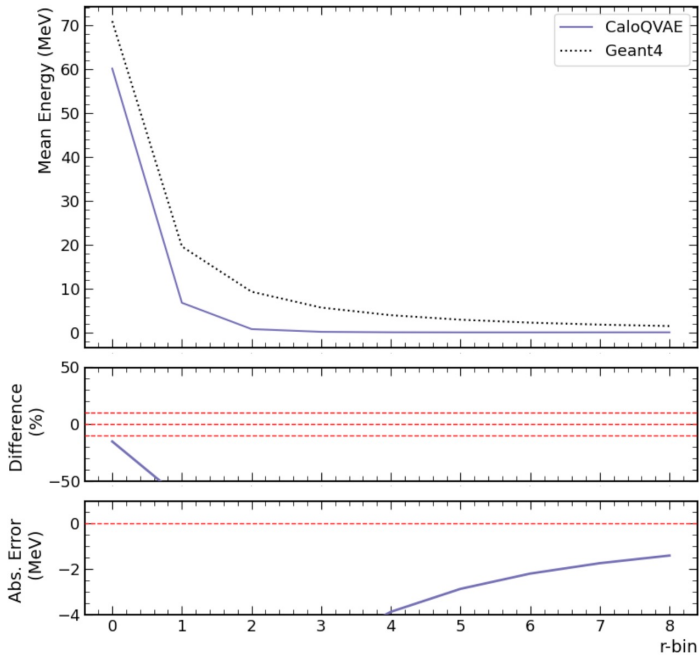
```
[30]: plt.hist(atlas_data.sum(axis=1) / 1000 , log=True);
```



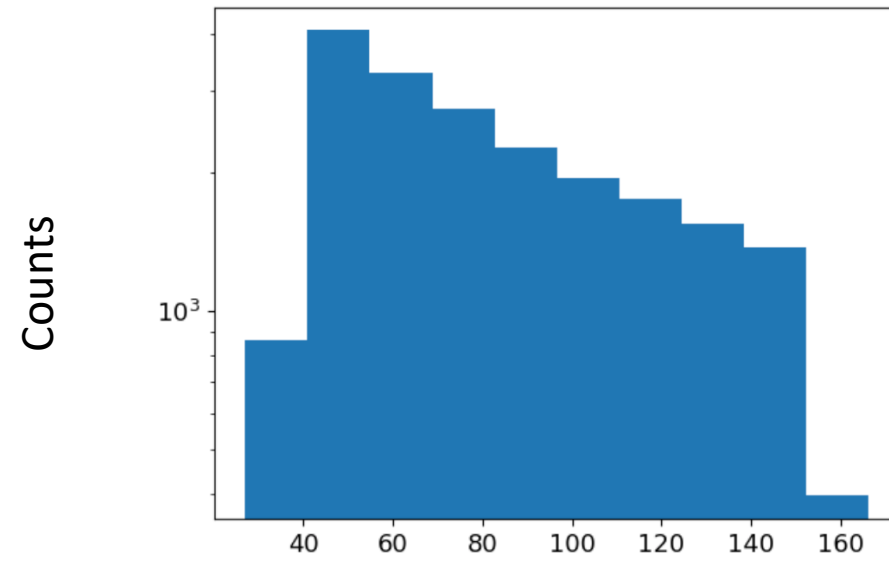
```
[31]: plt.hist(data.sum(axis=1) / 1000 , log=True);
```



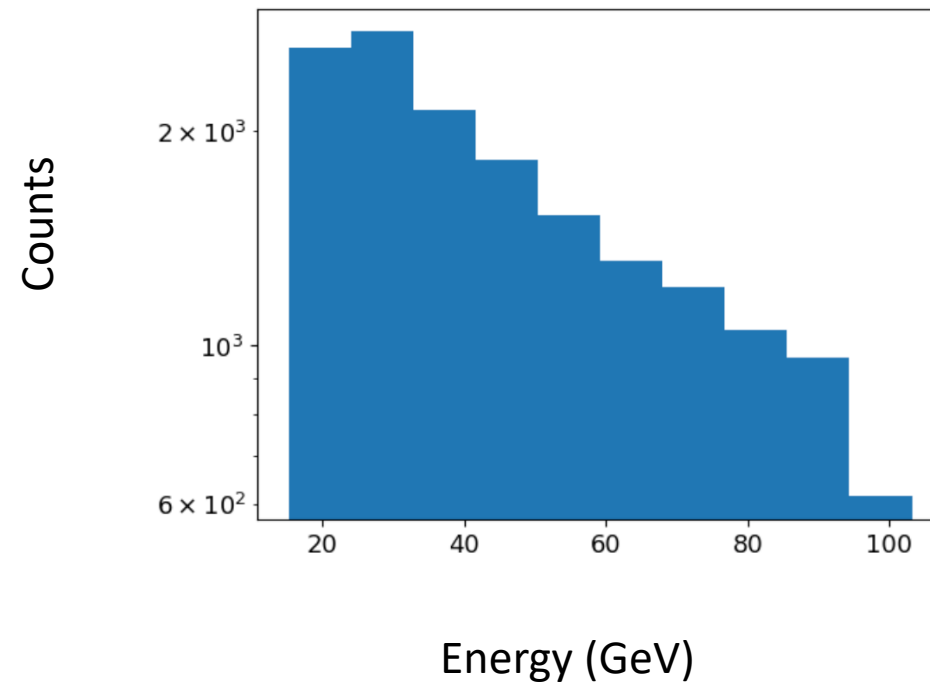
Mid-Energy (50-200 GeV) plots

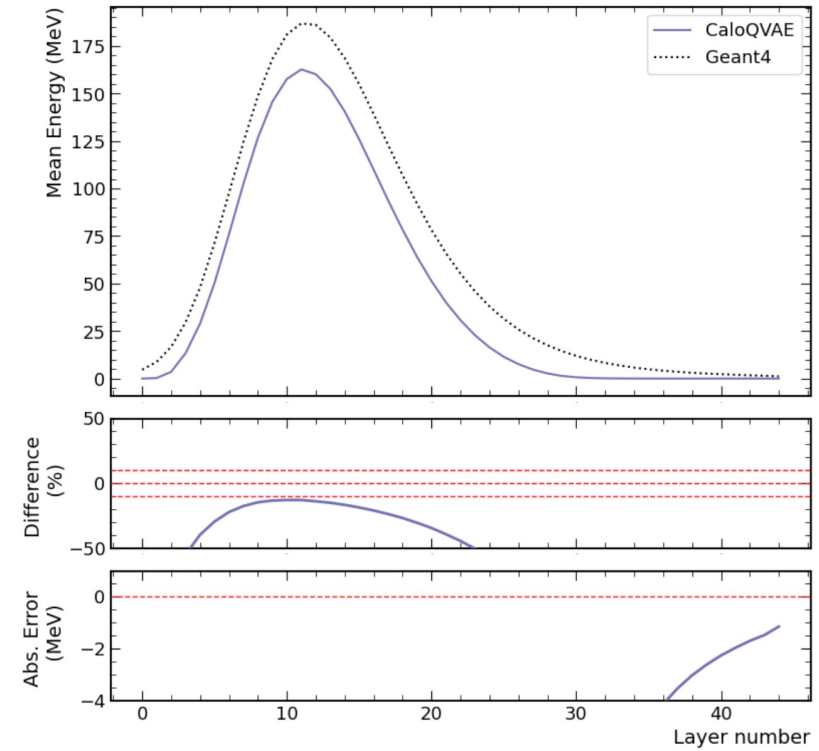
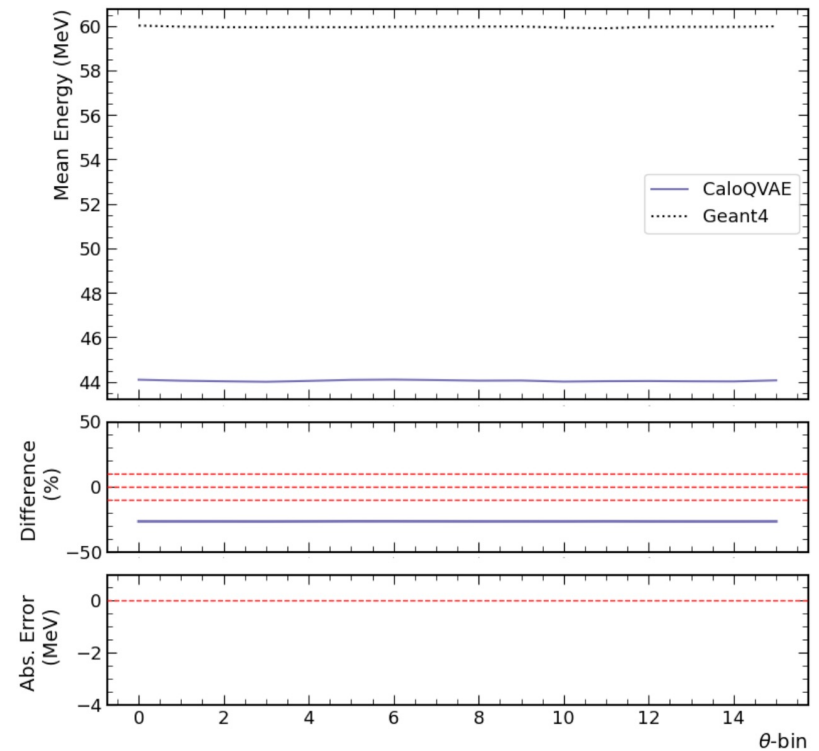
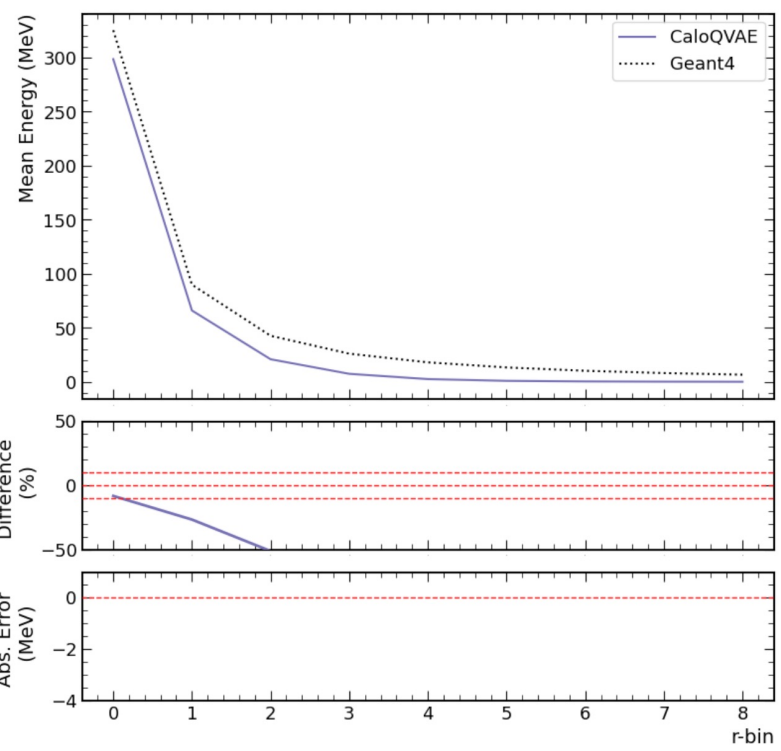


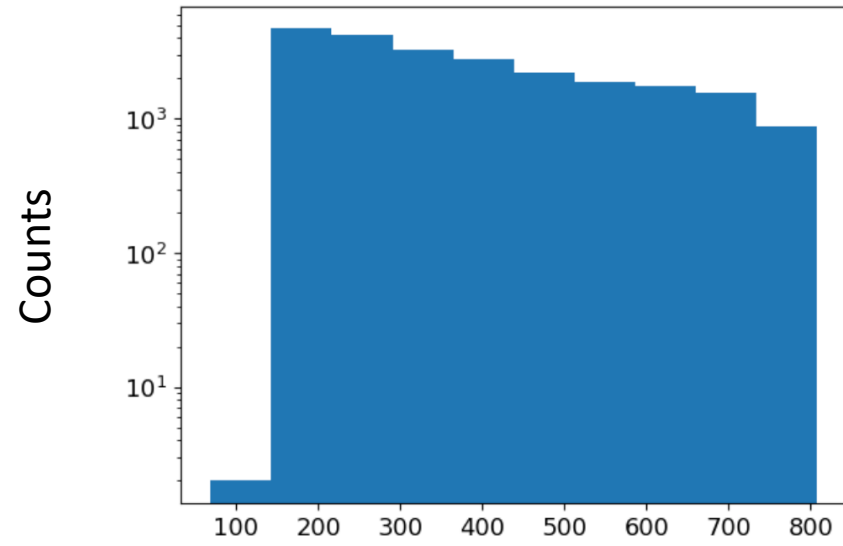
```
[51]: plt.hist(atlas_data.sum(axis=1) / 1000 , log=True);
```



```
[52]: plt.hist(data.sum(axis=1) / 1000 , log=True);
```







```
0]: plt.hist(data.sum(axis=1) / 1000 , log=True);
```

