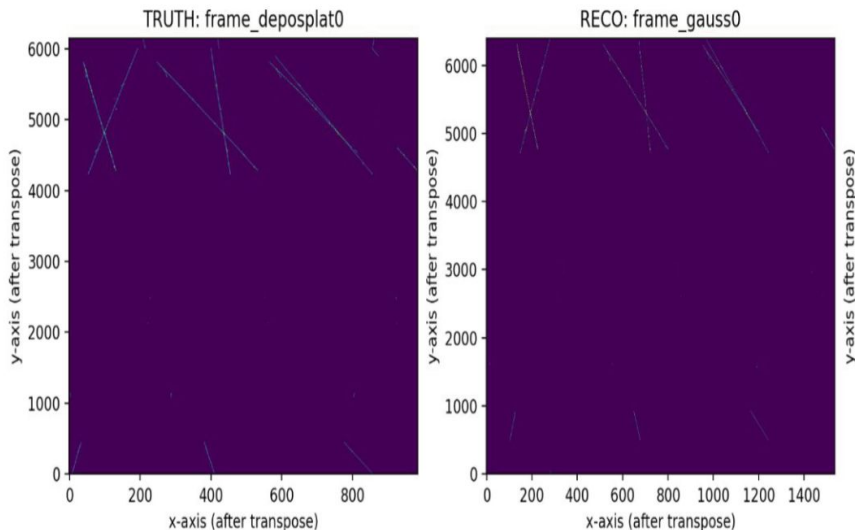
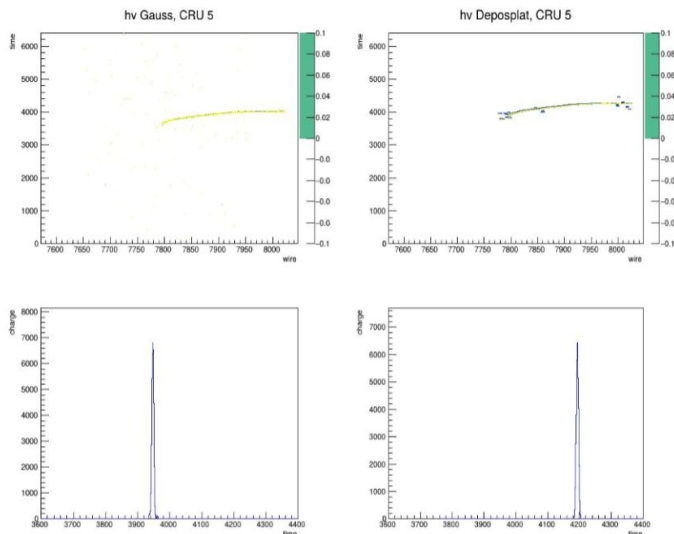




Status report on
DNNROI sigproc

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Previous issues

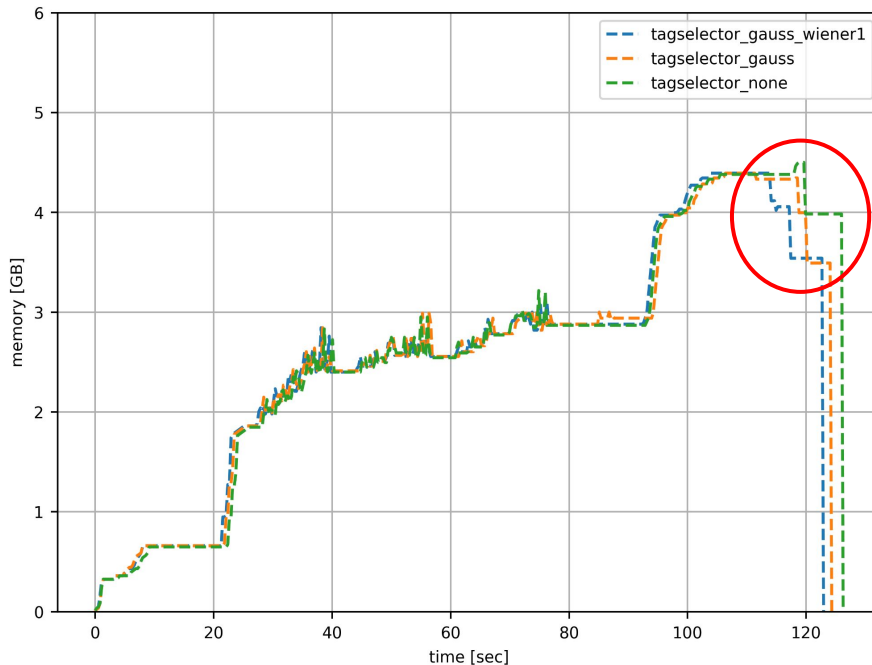
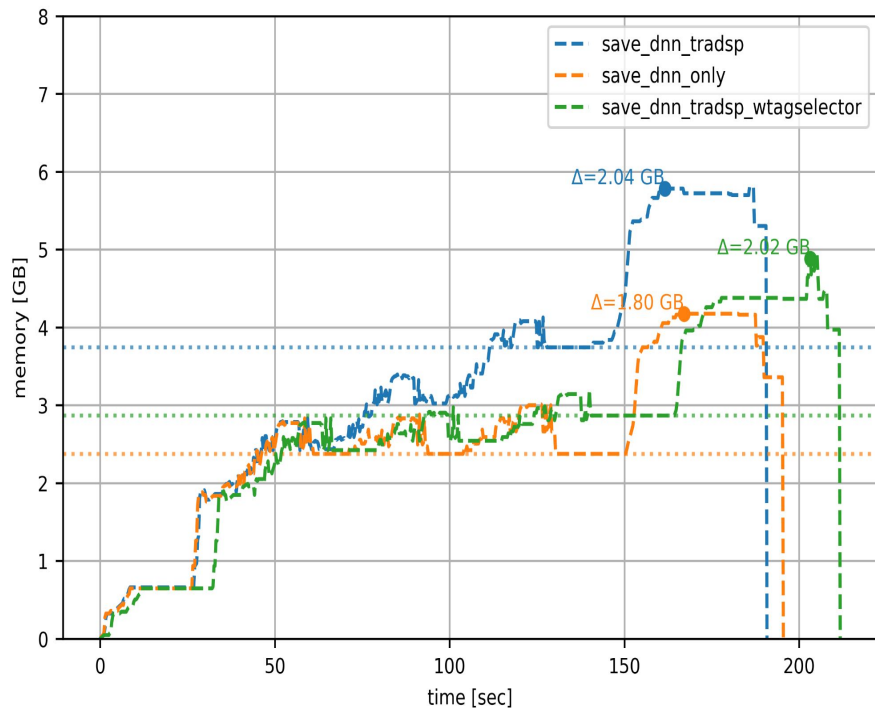


❑ Time offset between reco and truth

❑ Mismatch in truth-reco mapping

- There were issues on **truth time offset** and **mapping** of the output HDF5 file for DNN training
- Measured time offset: 245 ticks (122.5 us) for PD-VD & 125 ticks (62.5 us) for PD-HD
- The cause is identified multiple time correction during the signal processing → Resolved!
- Added Reframer to the truth pipeline

Memory consumption check



- Left: measured the memory difference between the baseline and the last peak
- Right: tested the TagSelector

PDVD training sample

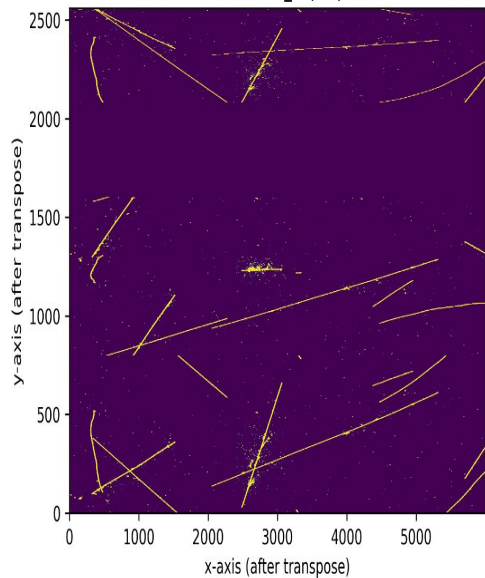
- Currently save three datasets (channels, frame, tickinfo) per 1 information
- To minimize the size of the data, we can consider removing information we don't need

```
channels_break_roi_1st6 Dataset {1536}
channels_break_roi_2nd6 Dataset {1536}
channels_cleanup_roi6 Dataset {1536}
channels_decon_charge6 Dataset {1536}
channels_dnns6 Dataset {584}
channels_extend_roi6 Dataset {1536}
channels_gauss6 Dataset {1536}
channels_loose_lf6 Dataset {1536}
channels_mp2_roi6 Dataset {1536}
channels_mp3_roi6 Dataset {1536}
channels_shrink_roi6 Dataset {1536}
frame_break_roi_1st6 Dataset {1536, 6400}
frame_break_roi_2nd6 Dataset {1536, 6400}
frame_cleanup_roi6 Dataset {1536, 6400}
frame_decon_charge6 Dataset {1536, 6400}
frame_dnns6 Dataset {584, 6400}
frame_extend_roi6 Dataset {1536, 6400}
frame_gauss6 Dataset {1536, 6400}
frame_loose_lf6 Dataset {1536, 6400}
frame_mp2_roi6 Dataset {1536, 6400}
frame_mp3_roi6 Dataset {1536, 6400}
frame_shrink_roi6 Dataset {1536, 6400}
tickinfo_break_roi_1st6 Dataset {3}
tickinfo_break_roi_2nd6 Dataset {3}
tickinfo_cleanup_roi6 Dataset {3}
tickinfo_decon_charge6 Dataset {3}
tickinfo_dnns6 Dataset {3}
tickinfo_extend_roi6 Dataset {3}
tickinfo_gauss6 Dataset {3}
tickinfo_loose_lf6 Dataset {3}
tickinfo_mp2_roi6 Dataset {3}
tickinfo_mp3_roi6 Dataset {3}
tickinfo_shrink_roi6 Dataset {3}
```

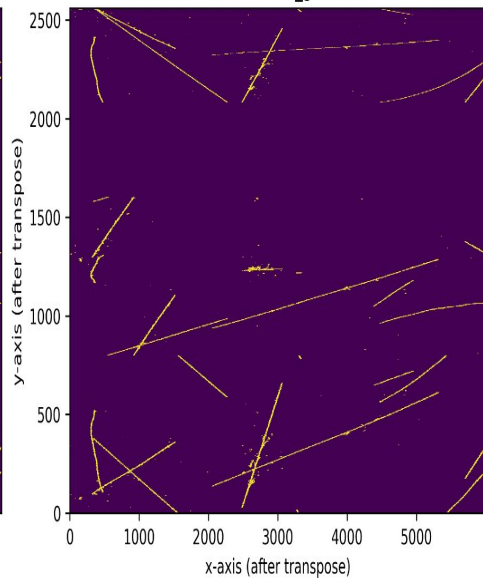
- Need to keep:
 - gauss
 - loose_lf
 - mp2_roi
 - mp3_roi
- Potentially can be removed:
 - break_roi_1st
 - break_roi_2nd
 - cleanup_roi
 - dnns6
 - extend_roi

PDHD training sample

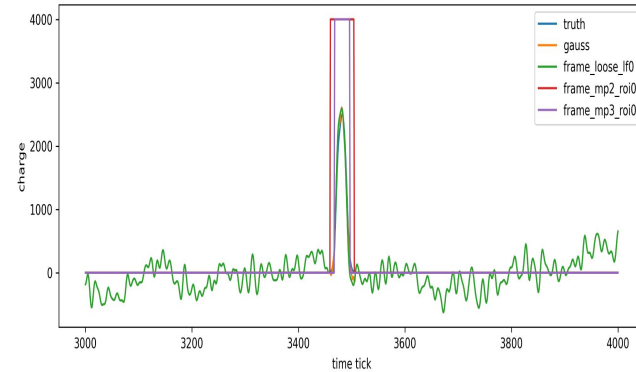
TRUTH: frame_deposplat0



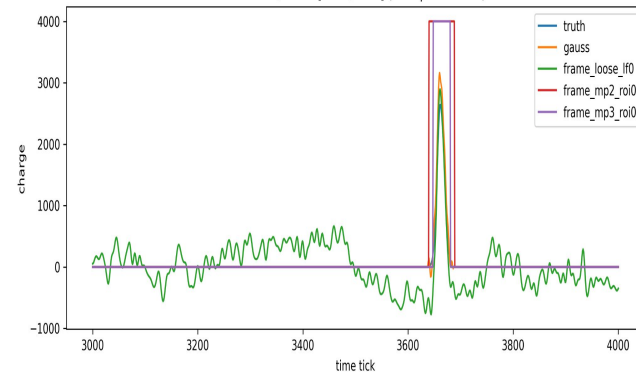
RECO: frame_gauss0



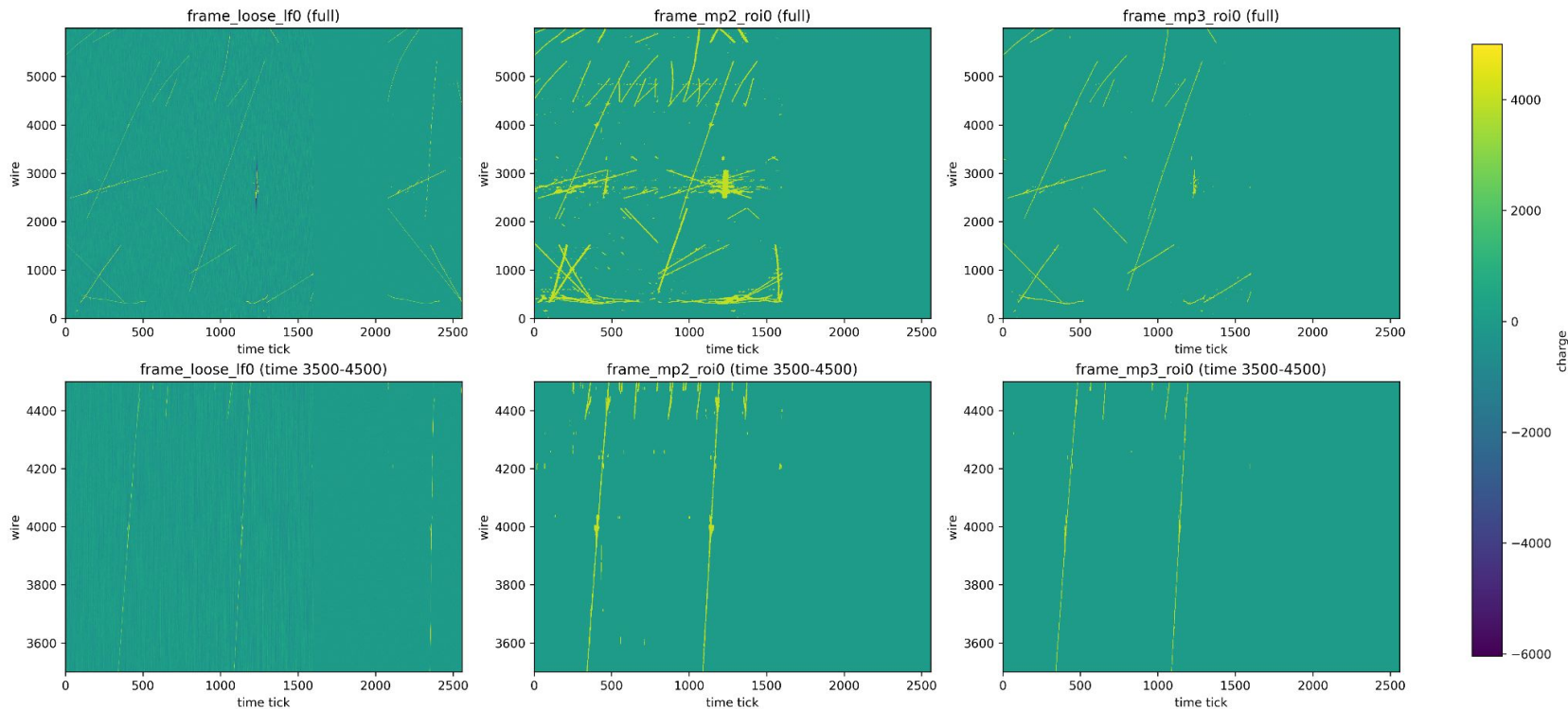
wire=338, time=[3000,4000] (transpose=False)



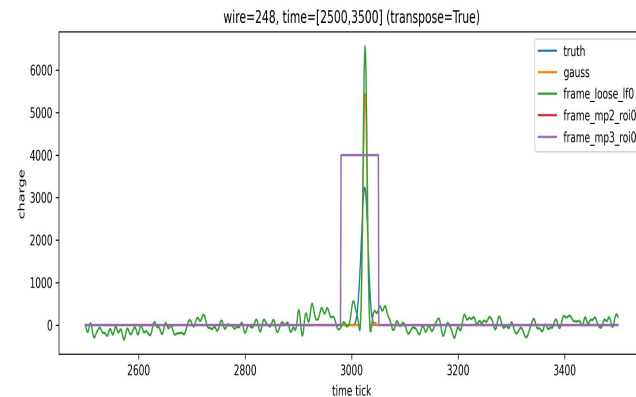
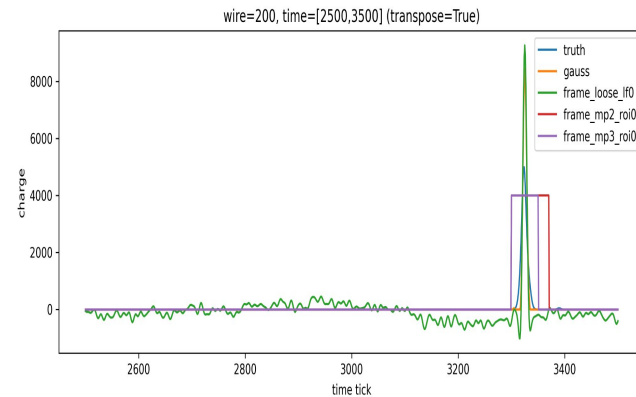
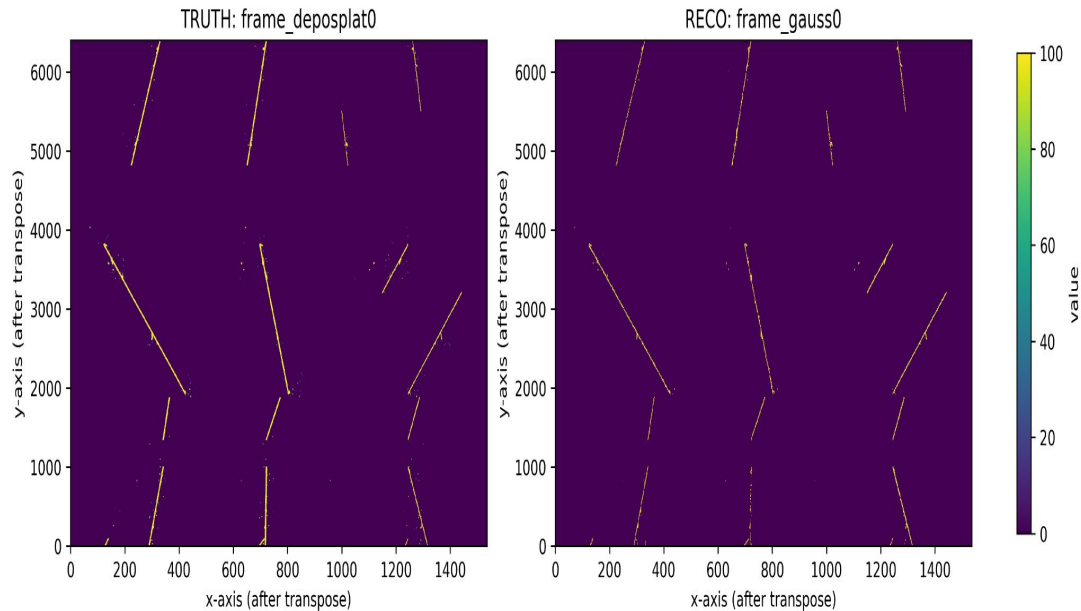
wire=363, time=[3000,4000] (transpose=False)



PDHD training sample

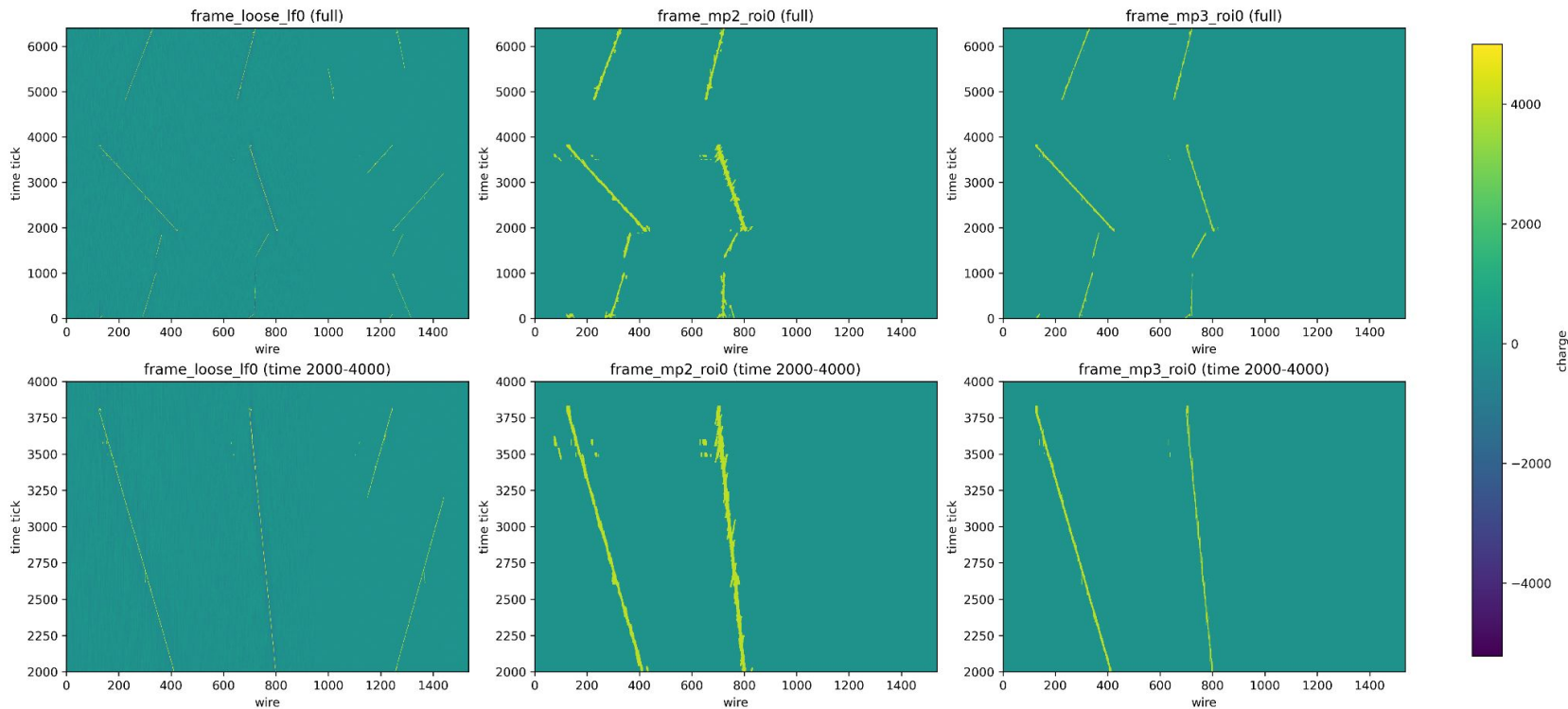


PDVD training sample



- Truth (DepoFluxSplat) vs. Gauss
- 2D and 1D waveform are well aligned (measured time offset ~ 1 tick)
- The shape of the loose_lf doesn't match with the truth

PDVD training sample



- MP roi looks smeared than PDHD case

Back Up