

# Kinematic Bin Analysis Report

Chatura Kuruppu

February 10, 2026

## LH2 Data Analysis

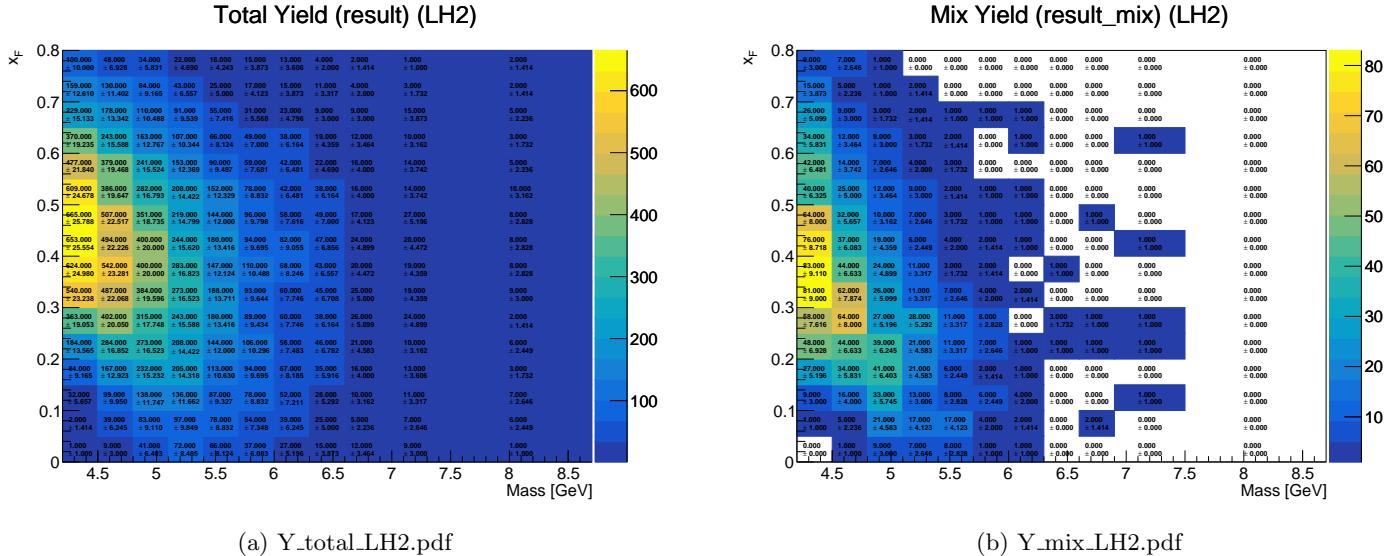


Figure 1: LH2: Total Yield vs Mix Yield

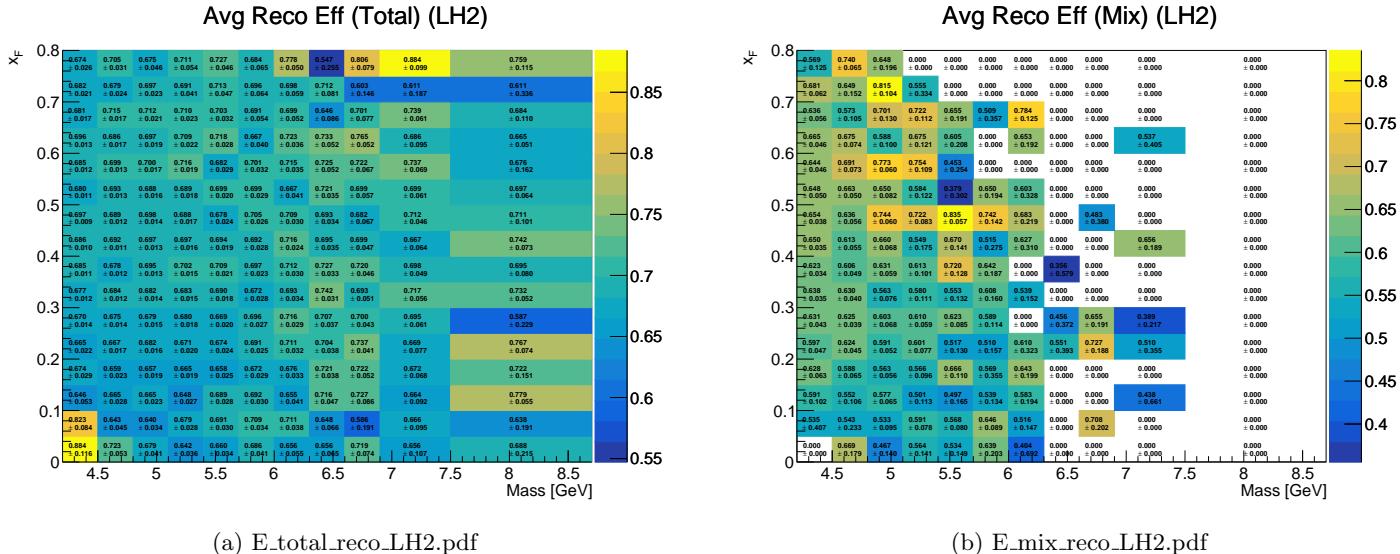
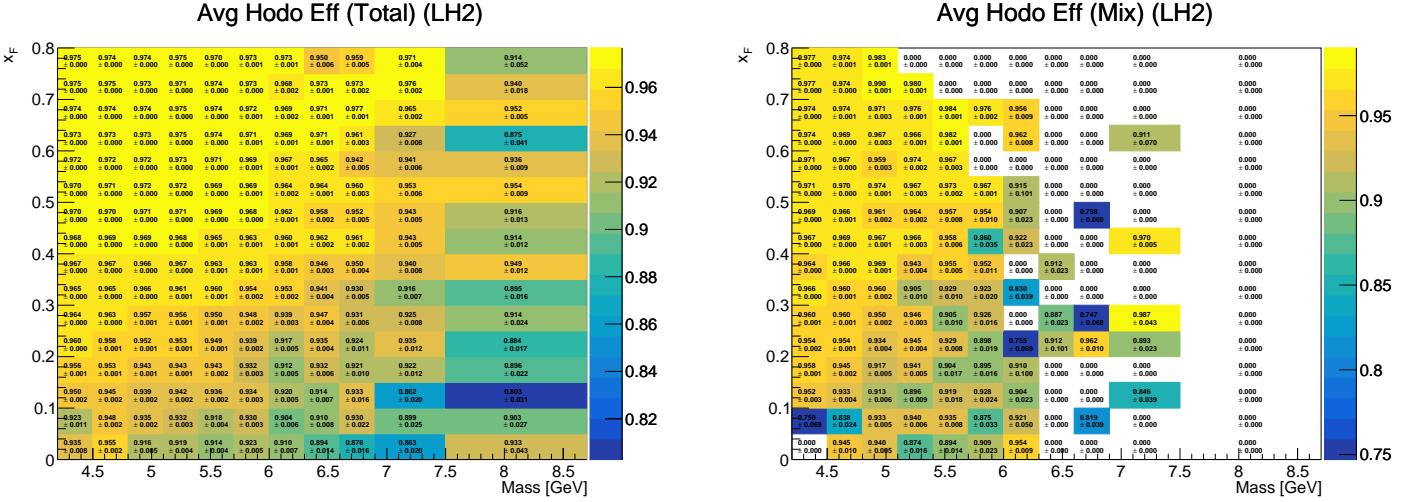
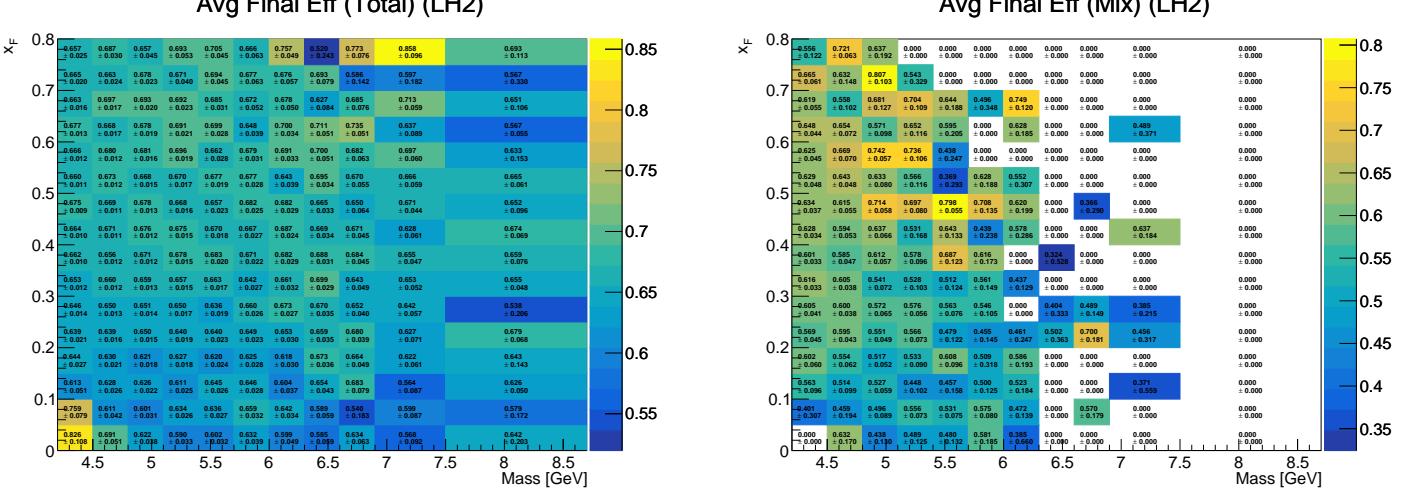


Figure 2: LH2: Reconstruction Efficiency (Total vs Mix)



(a) E\_total\_hodo\_LH2.pdf (b) E\_mix\_hodo\_LH2.pdf

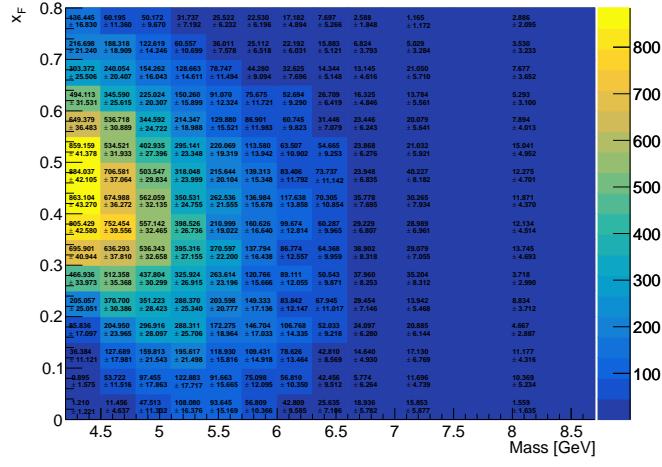
Figure 3: LH2: Hodoscope Efficiency (Total vs Mix)



(a) E\_total\_final\_LH2.pdf (b) E\_mix\_final\_LH2.pdf

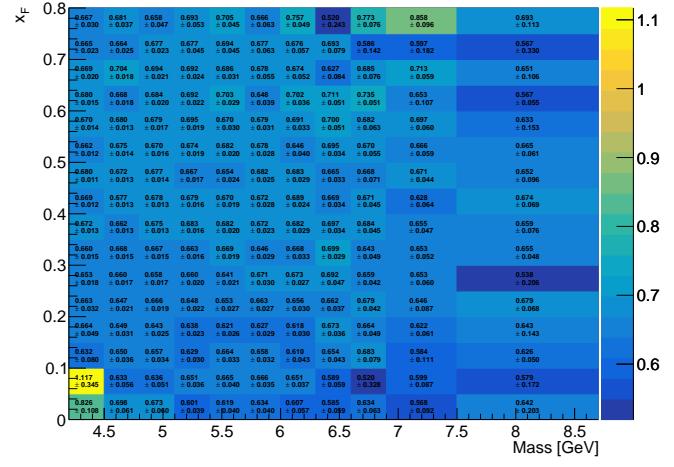
Figure 4: LH2: Final Efficiency (Total vs Mix)

### Corrected Yield ( $Y_{\text{tot}} - Y_{\text{mix}}$ )/ $E_{\text{sig}}$ (LH2)



(a) Y\_corrected\_LH2.pdf

### Avg Signal Efficiency (LH2)

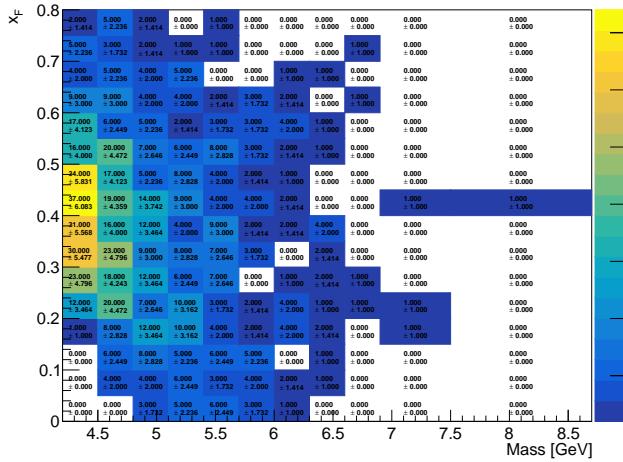


(b) E\_final\_signal\_LH2.pdf

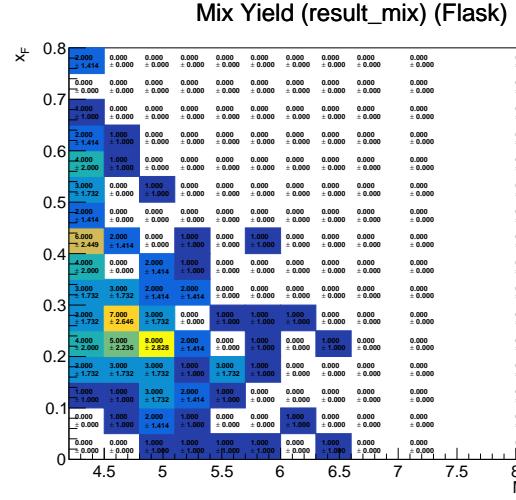
Figure 5: LH2: Corrected Yield and Signal Efficiency

# Flask Data Analysis

Total Yield (result) (Flask)



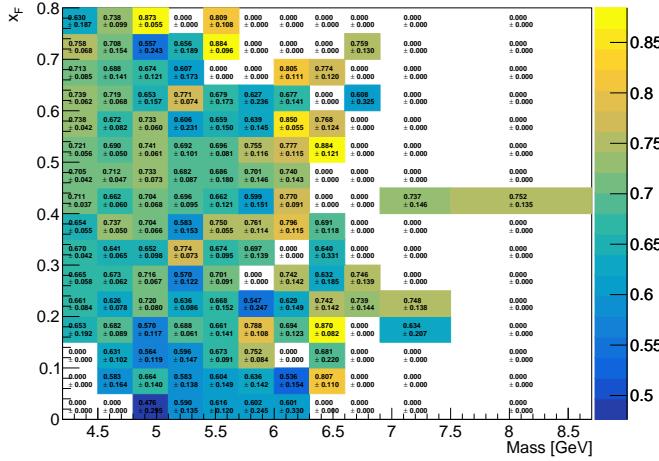
(a) Y\_total\_Flask.pdf



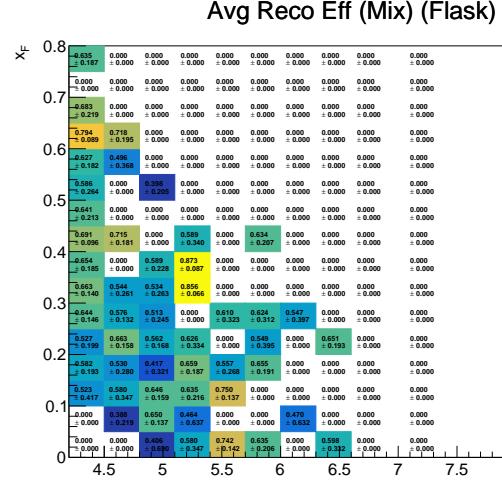
(b) Y\_mix\_Flask.pdf

Figure 6: Flask: Total Yield vs Mix Yield

Avg Reco Eff (Total) (Flask)



(a) E\_total\_reco\_Flask.pdf



(b) E\_mix\_reco\_Flask.pdf

Figure 7: Flask: Reconstruction Efficiency (Total vs Mix)

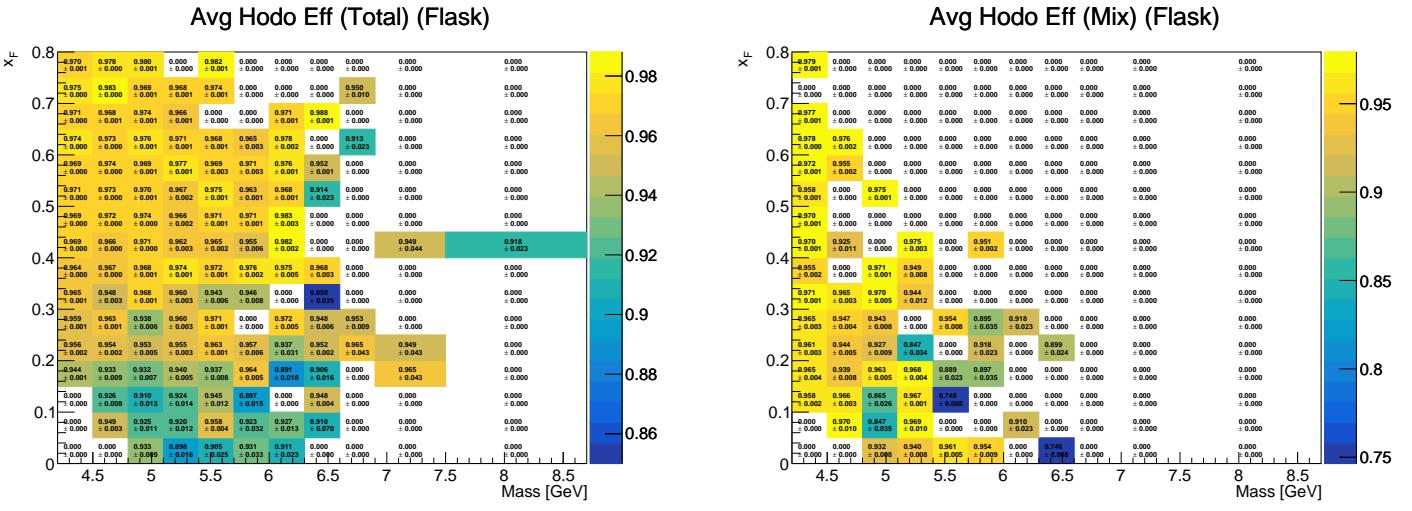


Figure 8: Flask: Hodoscope Efficiency (Total vs Mix)

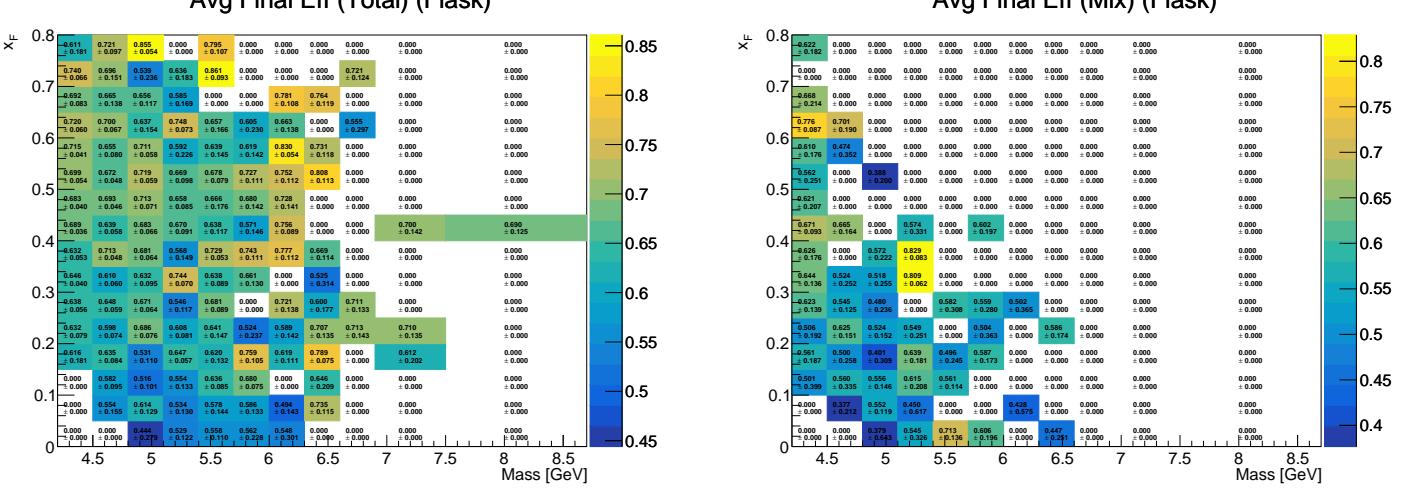
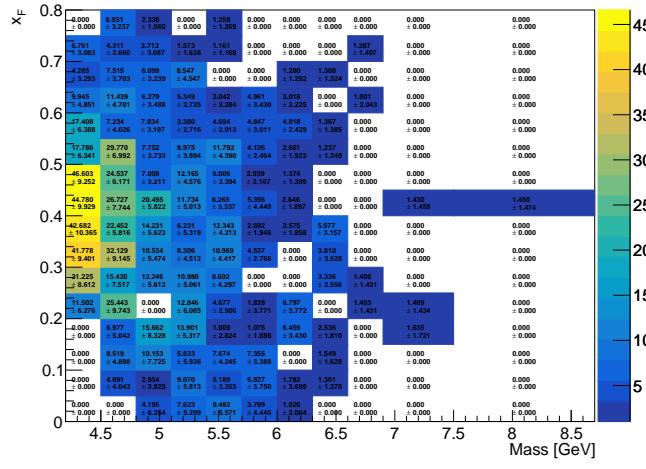


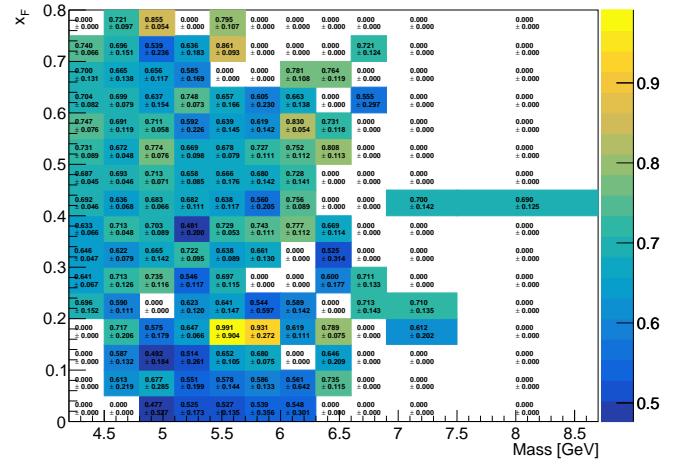
Figure 9: Flask: Final Efficiency (Total vs Mix)

### Corrected Yield ( $Y_{\text{tot}} - Y_{\text{mix}}$ )/ $E_{\text{sig}}$ (Flask)



(a)  $Y_{\text{corrected}}_{\text{Flask.pdf}}$

### Avg Signal Efficiency (Flask)



(b)  $E_{\text{final.signal}}_{\text{Flask.pdf}}$

Figure 10: Flask: Corrected Yield and Signal Efficiency