# Lumi Analysis Update 2025/03/20
# Nathan Heinrich

Return to analysis. Looking at Coin data.

Good progress on coin data:

- Applying the boiling correction from singles
- Testing out Dave Mack’s Hodo correction
- Still seeing a rate dependence

# Corrections applied

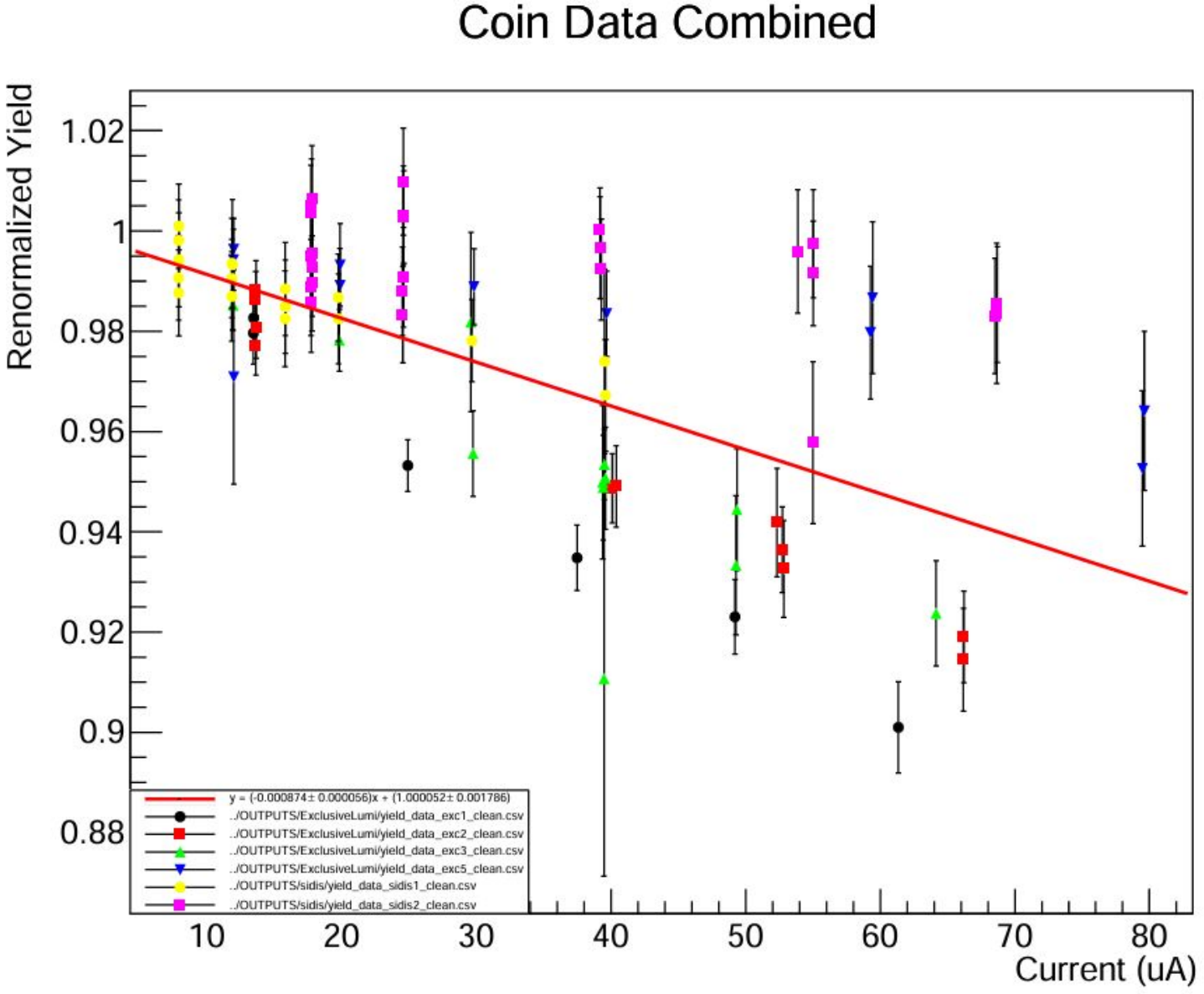
| “Pass 10” | “Pass 12” |
| --- | --- |
| 2.8 %/100uA boiling<br>Tracking (both arms)<br>EDTM TLT<br>BCM Current correction | Same as Pass 10 with:<br>D. Mack Hodo Corr (both arms)<br>Note – errors not finalized |

Pass 10 and 12 are my internal names.

# Pass 10

Plotted vrs Current

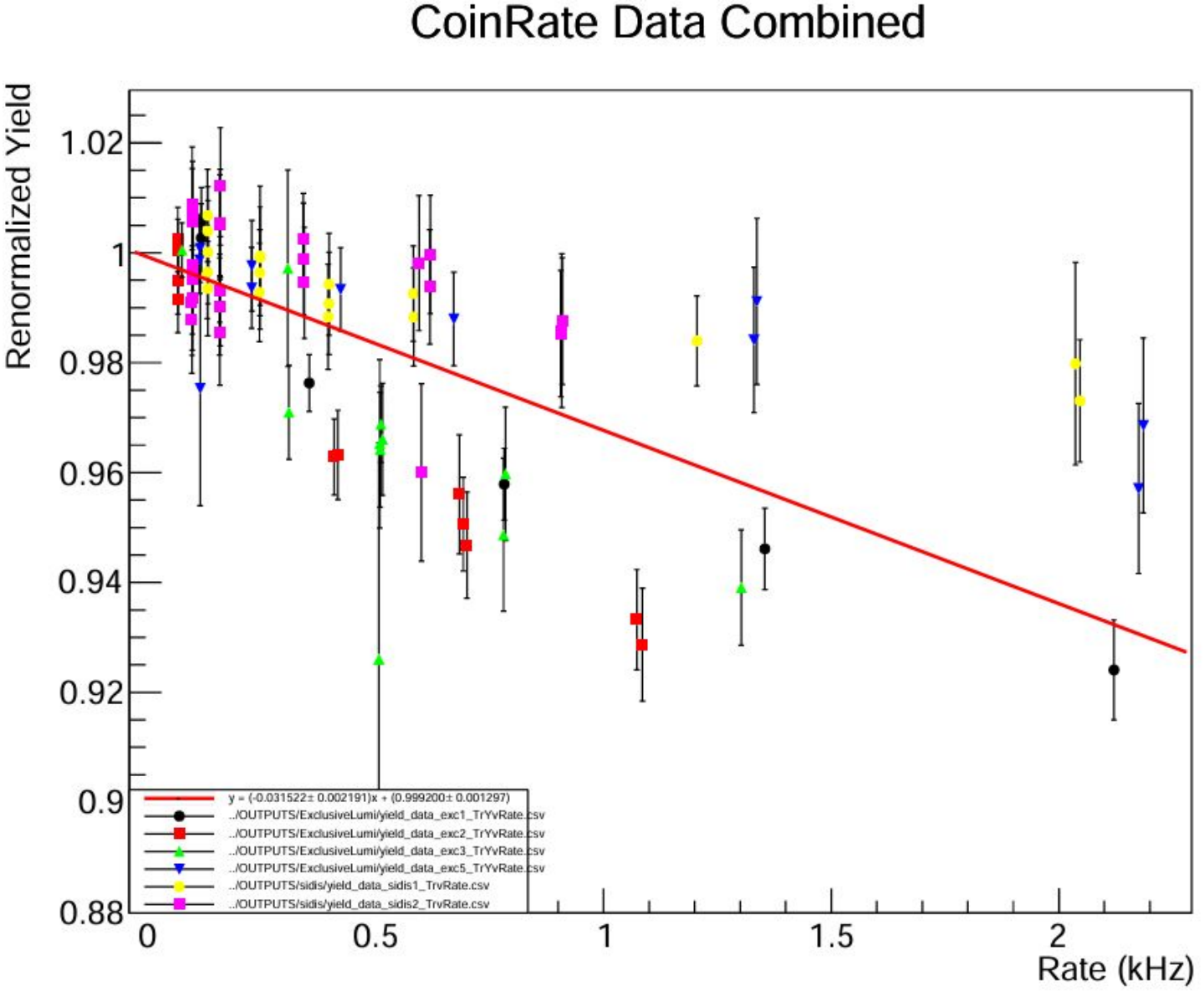
2.8 %/100uA boiling
Tracking (both arms)
EDTM TLT
BCM Current correction



# Pass 10

Plotted vrs Coin (PS5) Rate

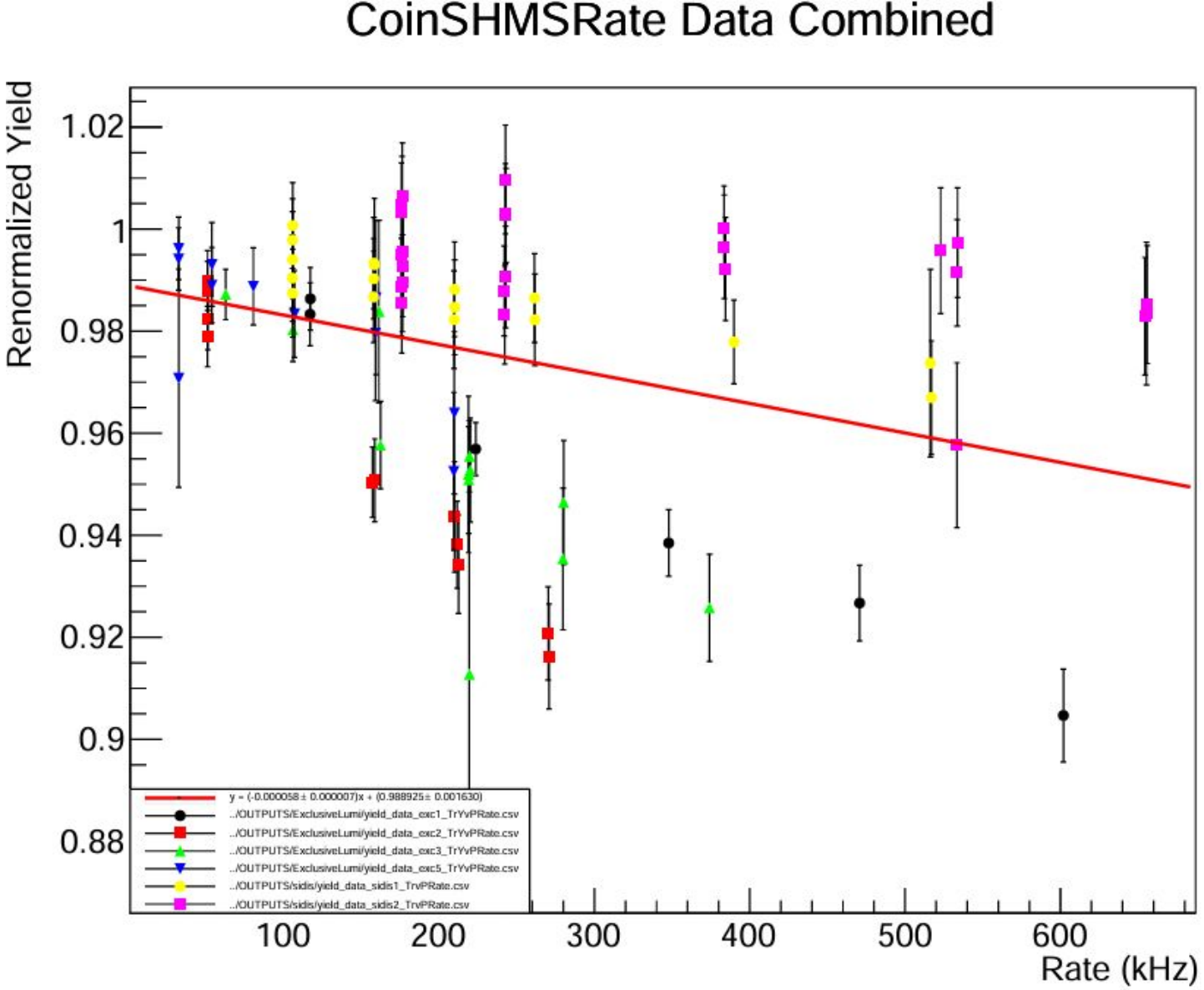
2.8 %/100uA boiling
Tracking (both arms)
EDTM TLT
BCM Current correction



# Pass 10

Plotted vrs SHMS 3/4 rate

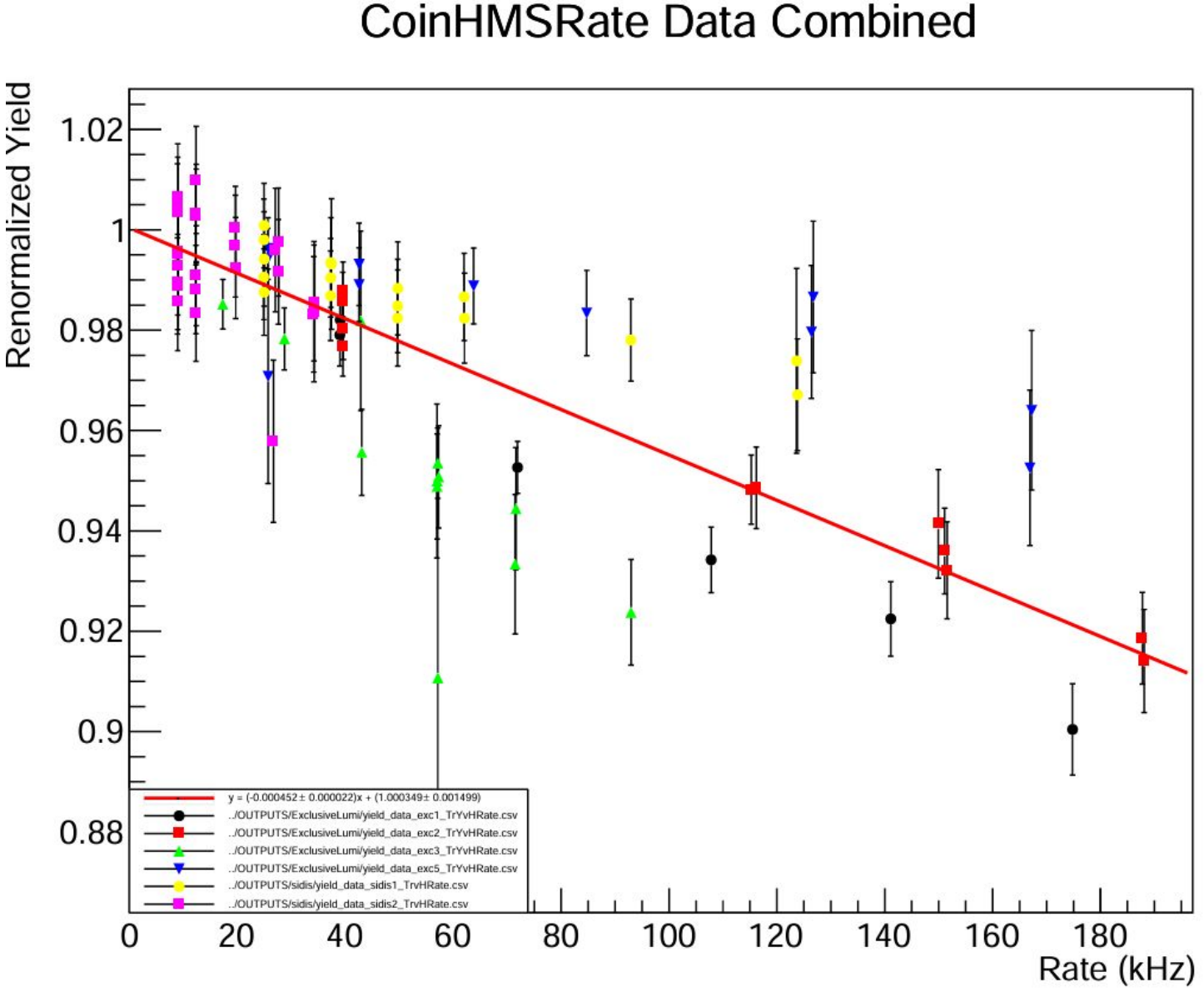
2.8 %/100uA boiling
Tracking (both arms)
EDTM TLT
BCM Current correction



# Pass 10

Plotted vrs HMS 3/4 rate

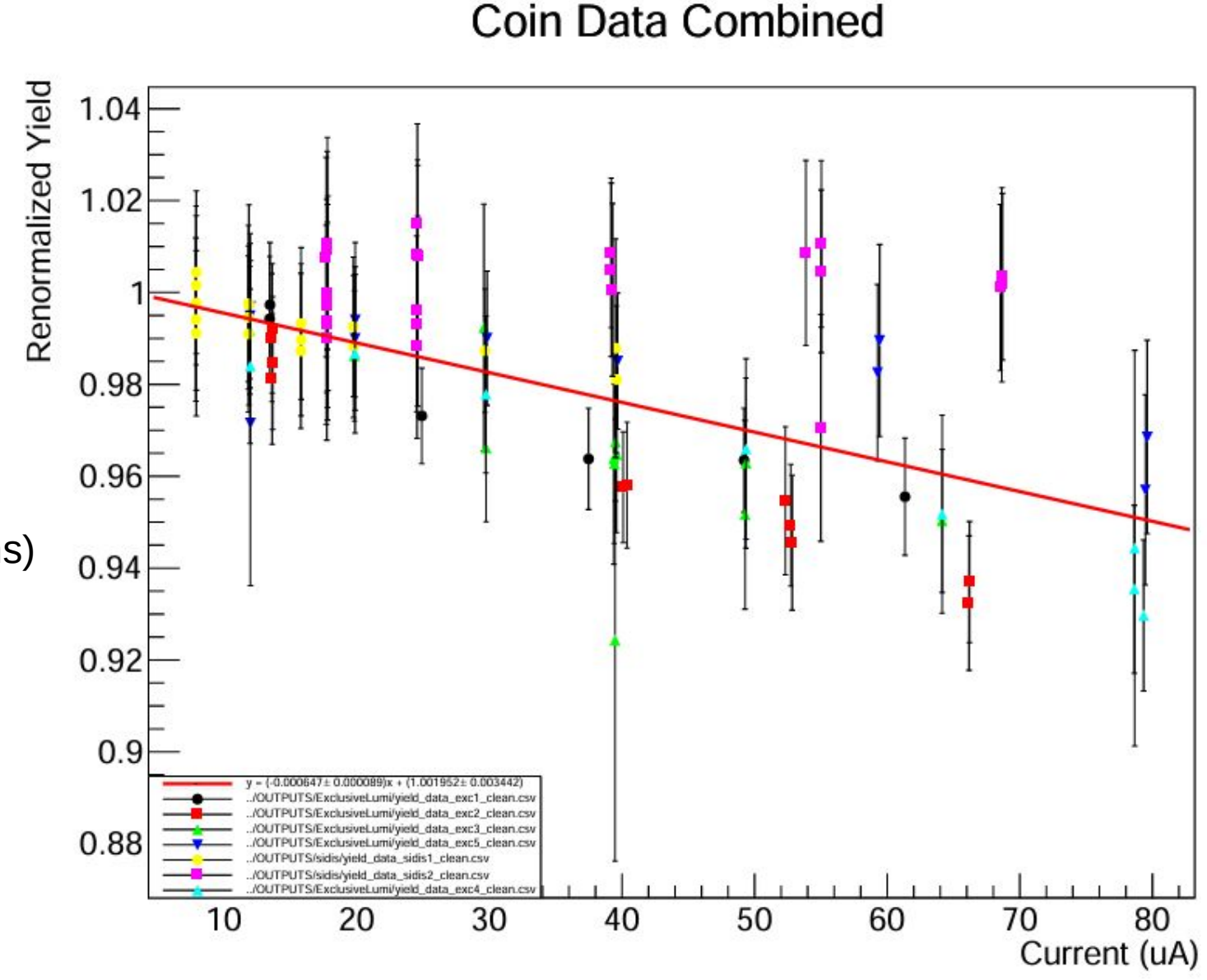
2.8 %/100uA boiling
Tracking (both arms)
EDTM TLT
BCM Current correction



# Pass 12

Plotted vrs Coin (PS5) Rate

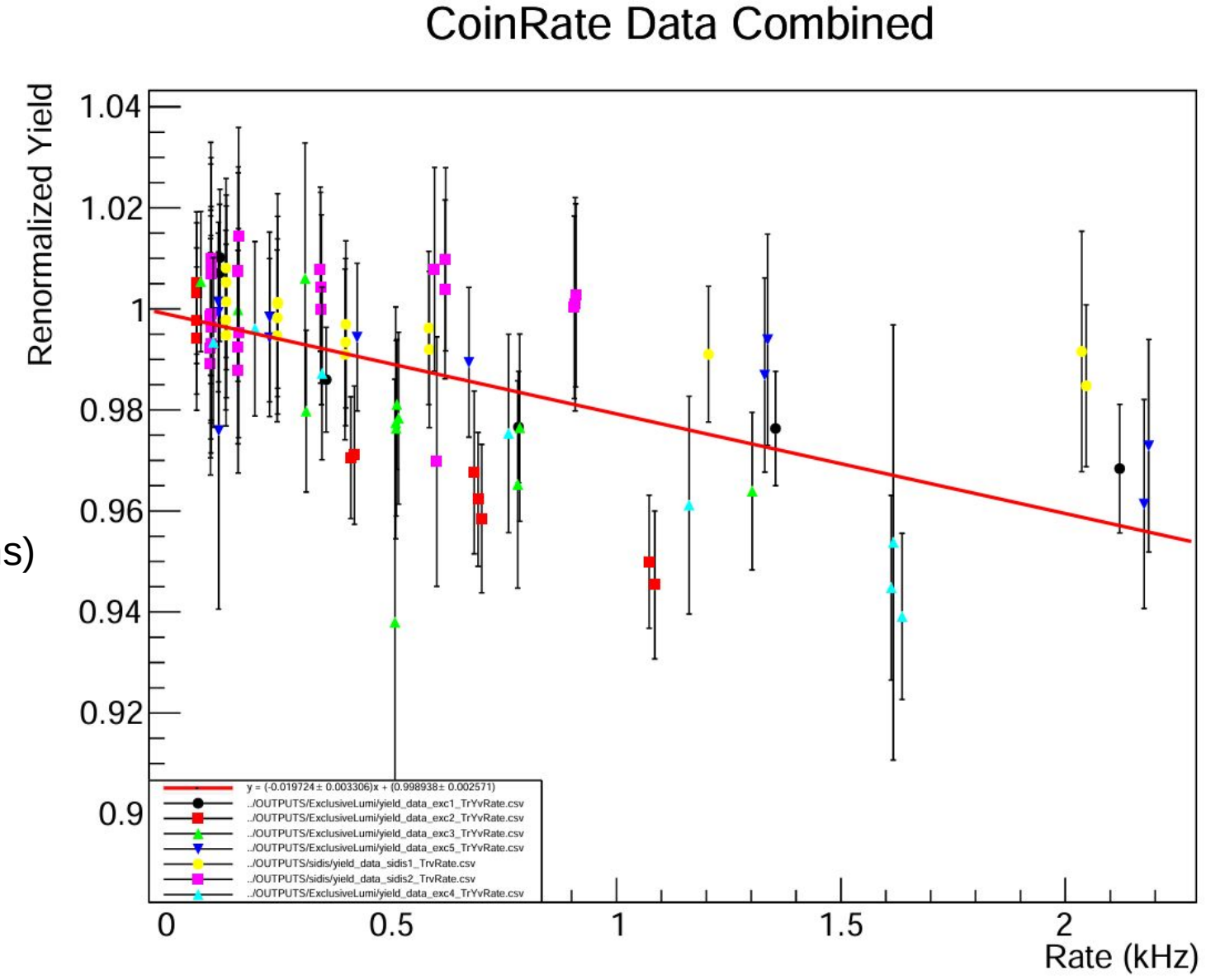
2.8 %/100uA boiling
Tracking (both arms)
EDTM TLT
BCM Current correction
D. Mack Hodo Corr (both arms)
Note – errors not finalized



# Pass 12

Plotted vrs Coin Rate

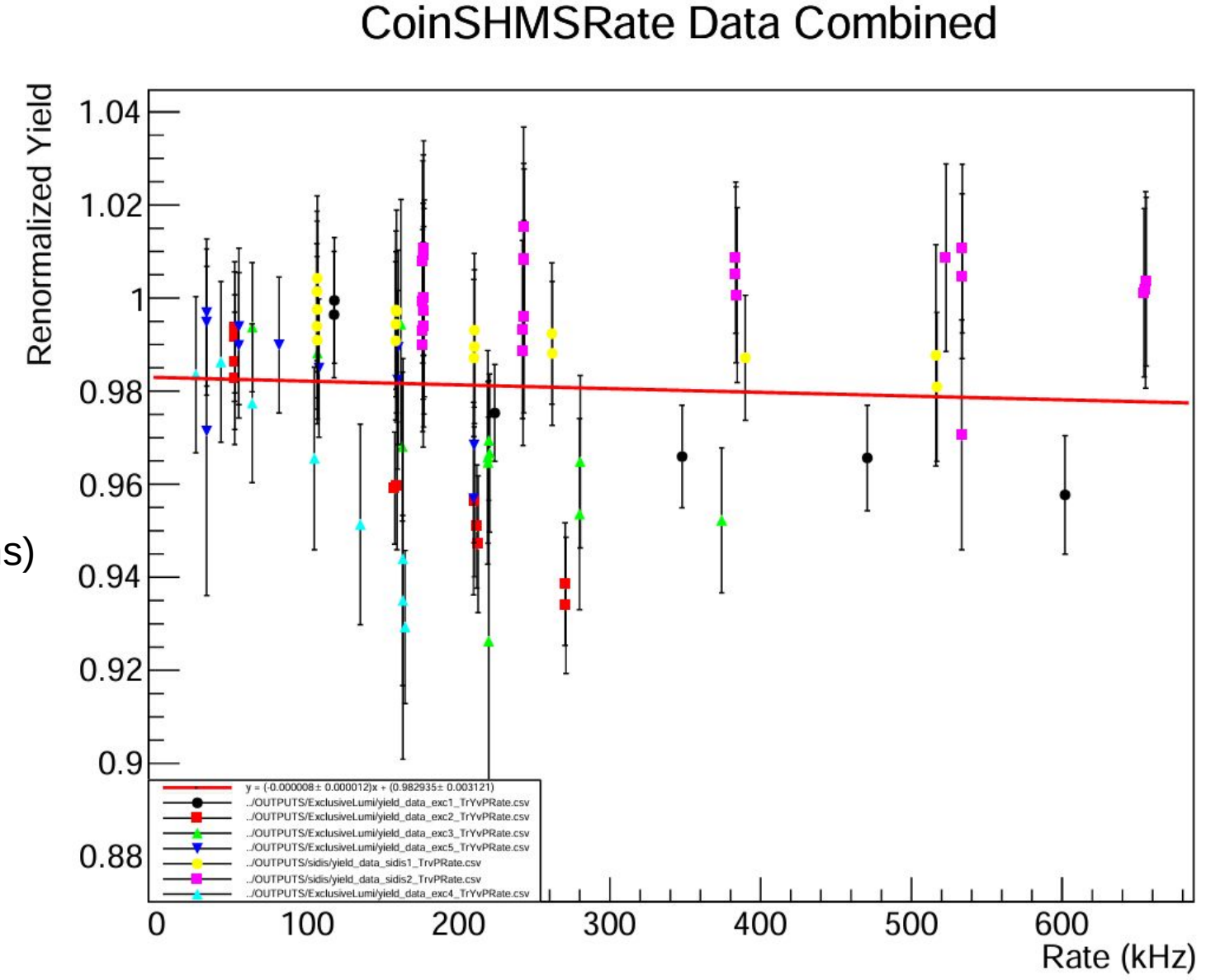
2.8 %/100uA boiling
Tracking (both arms)
EDTM TLT
BCM Current correction
D. Mack Hodo Corr (both arms)
Note – errors not finalized



# Pass 12

Plotted vrs SHMS 3/4 rate

2.8 %/100uA boiling
Tracking (both arms)
EDTM TLT
BCM Current correction
D. Mack Hodo Corr (both arms)
Note – errors not finalized



# Pass 12

Plotted vrs HMS 3/4 rate

2.8 %/100uA boiling
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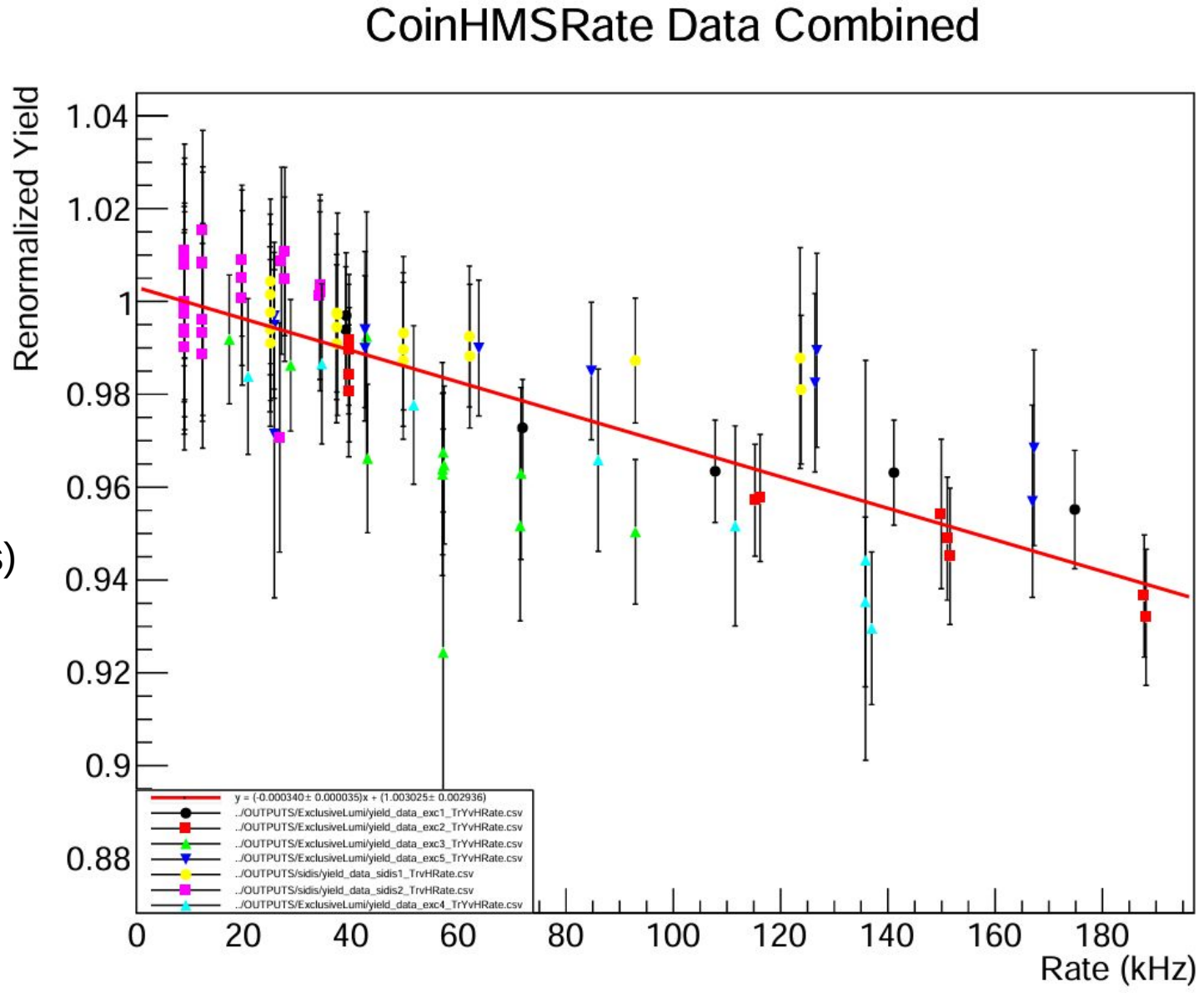
Note – errors not finalized



# Conclusion

It appears that there is an HMS rate dependence in the coin data.

My first thought is to apply a ad-hoc correction,
but I’m open to other ideas

Need to finalized uncertainties before moving making such a correction