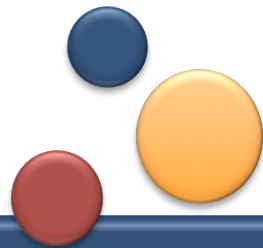


Boiling Target Study for $\text{Ar}(e, e'p)$

Sheren Alsalmi
Kent State University
March, 21, 2017

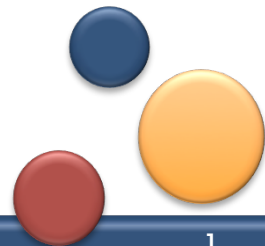


Motivation:

- Perform boiling target study on both Ti and Ar targets for $Ar(e, e'p)$ experiment.

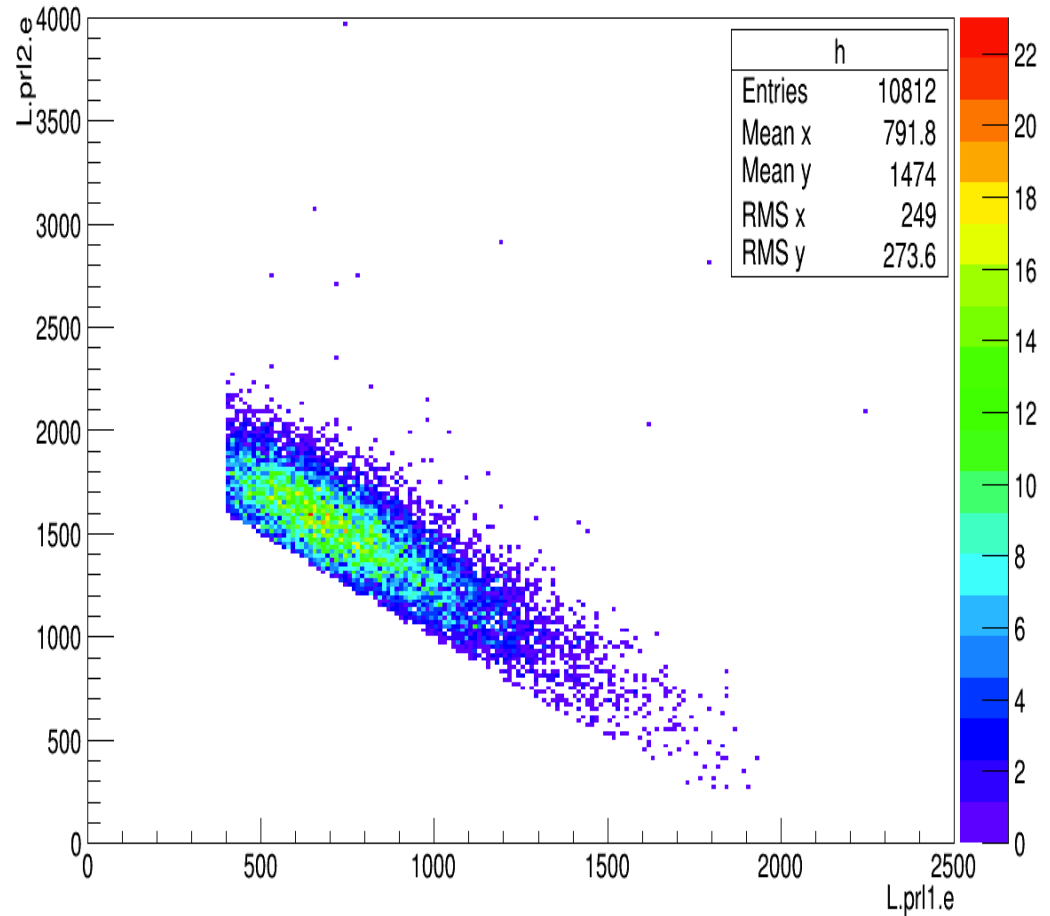
Method:

- Charge Yield Analysis

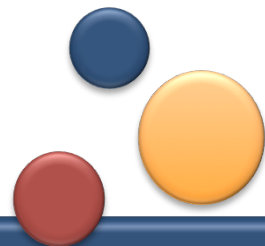
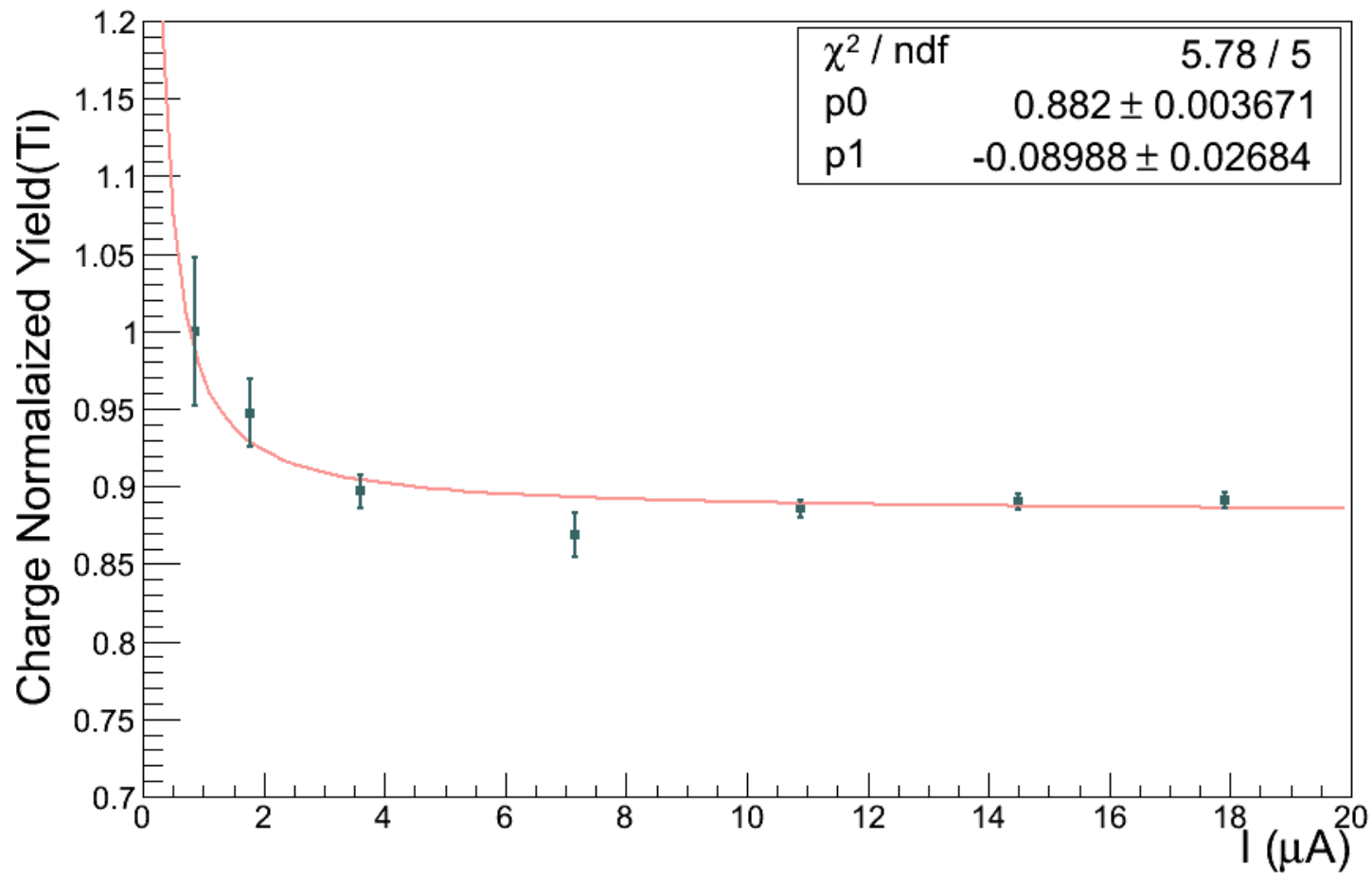


Cuts Applied:

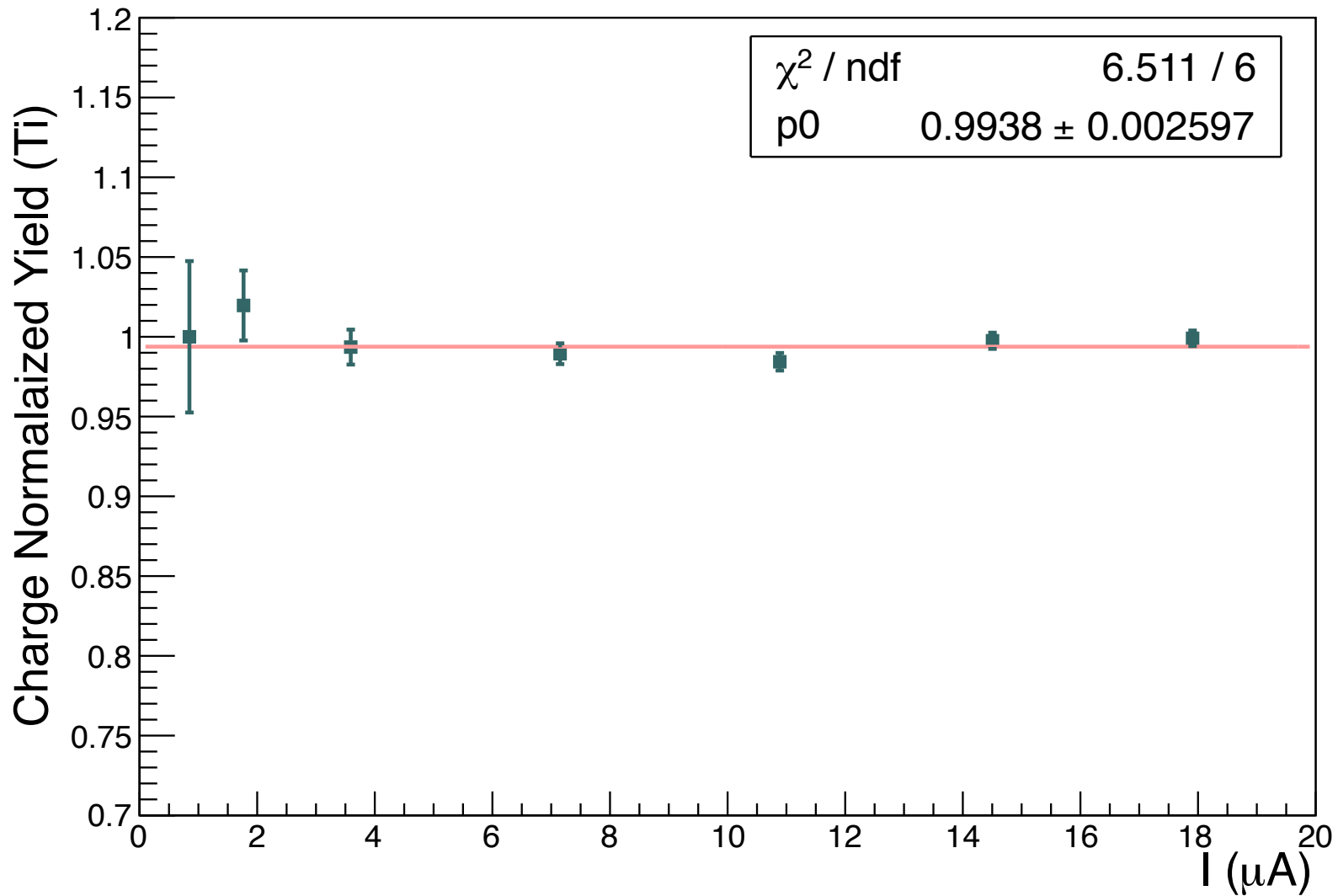
- PID cut (Cer efficiency $\sim 99.8\%$)
- One track cut
- Cut on target length
- Trigger cut (single left trigger)

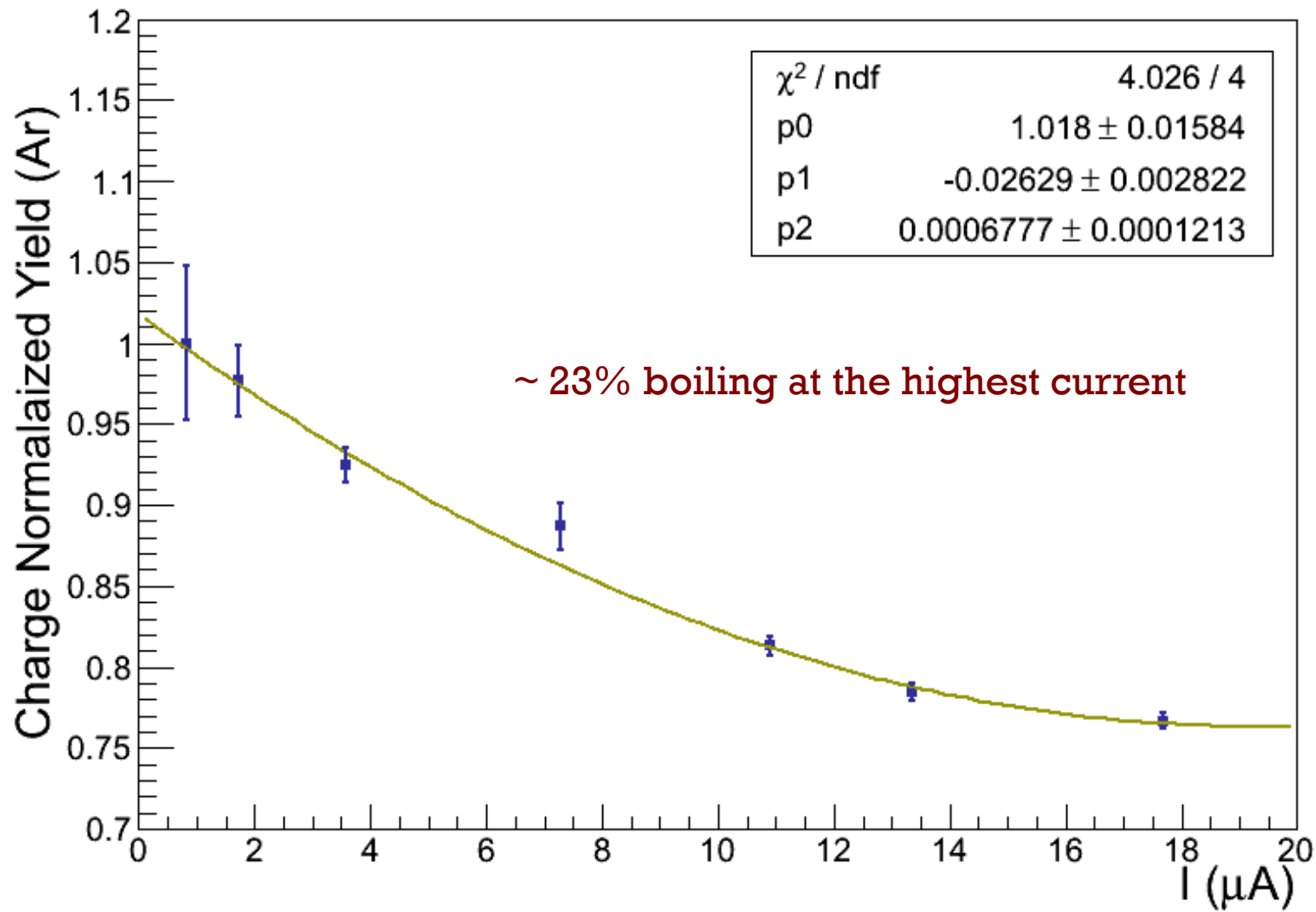


Before Applying correction

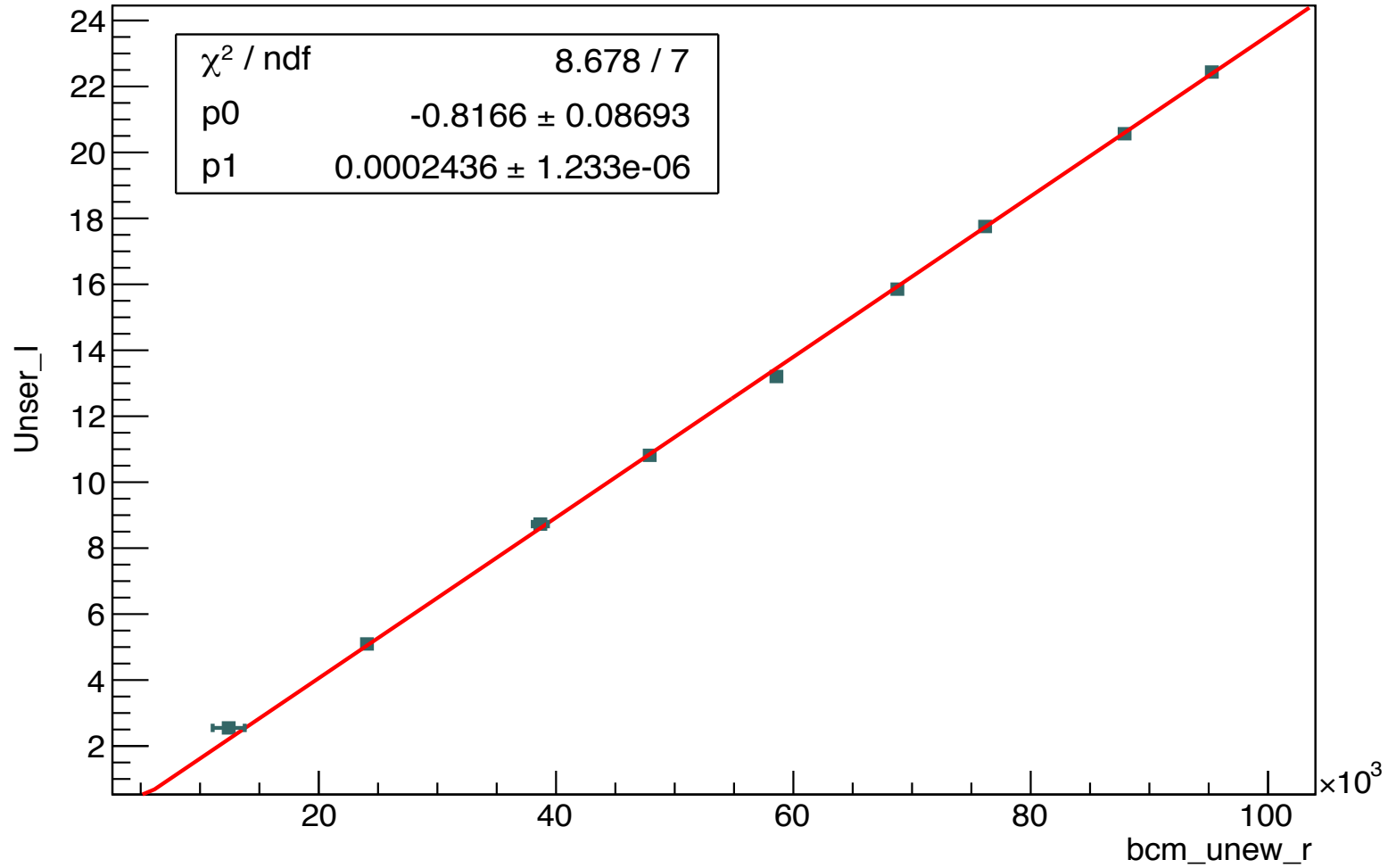


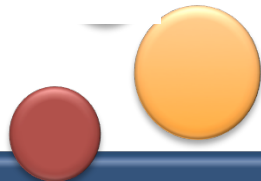
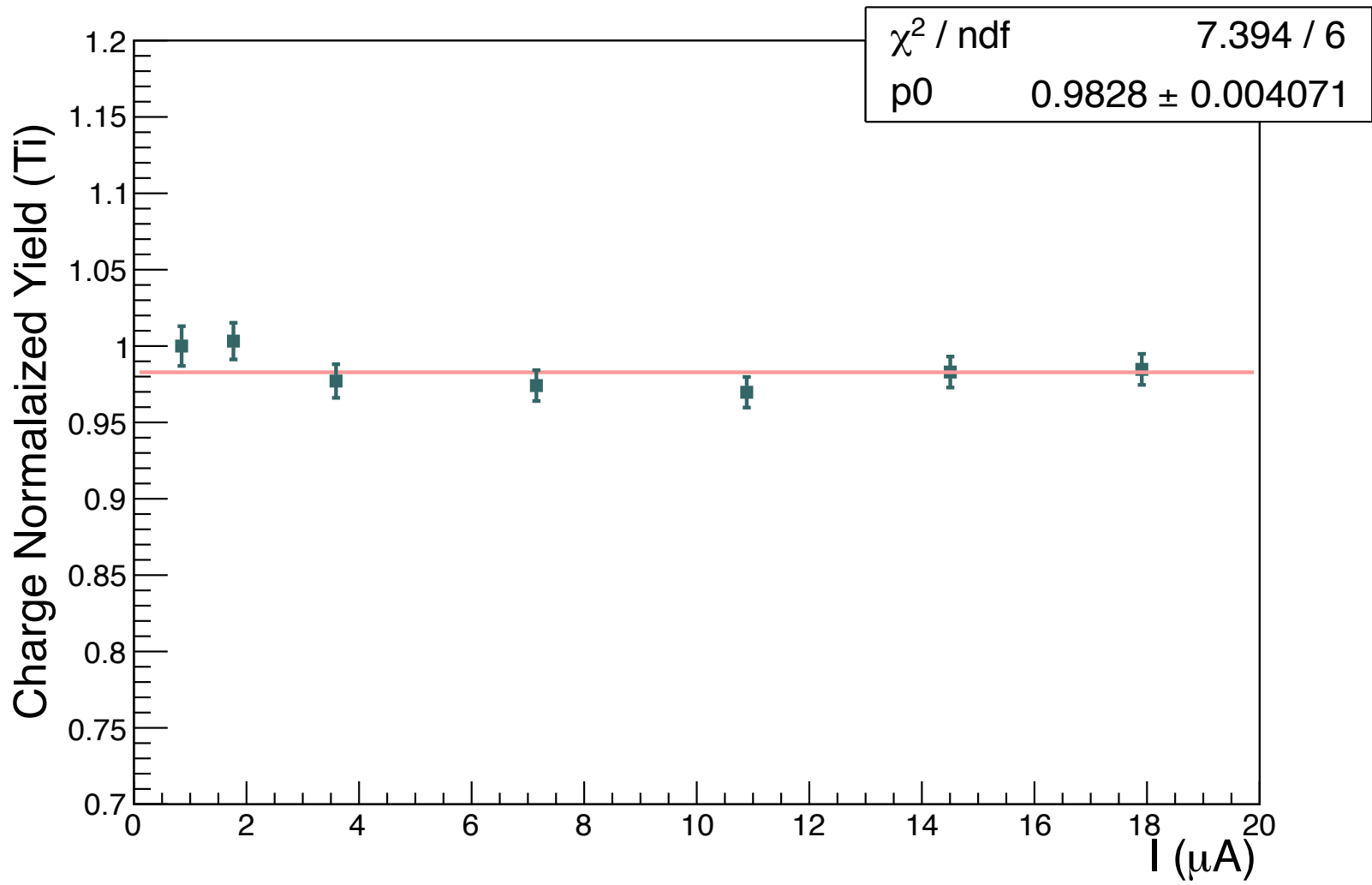
After Applying the offset Correction



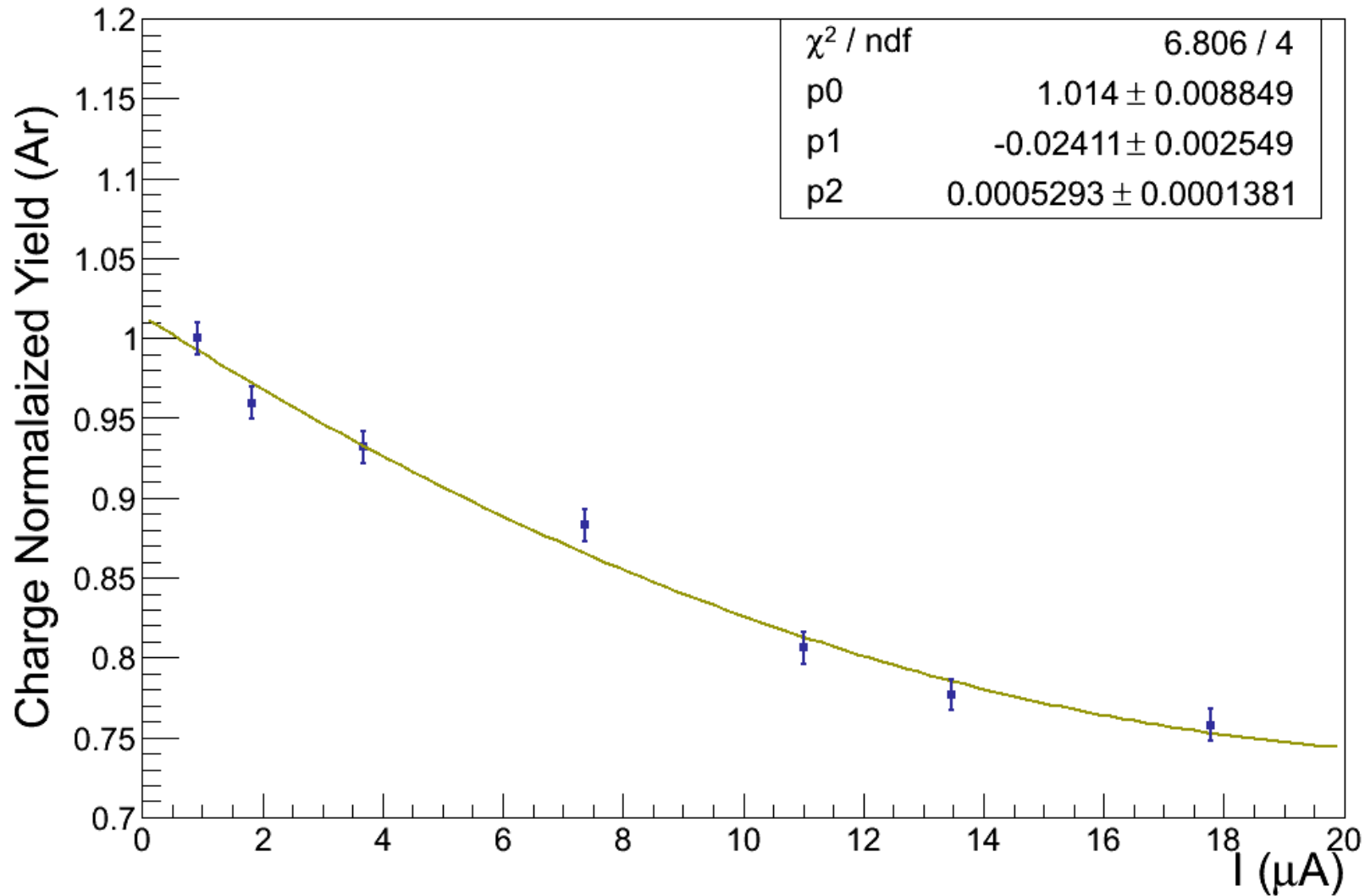


Re-fitting the BCM





~ 24% boiling at the highest current



Results:

- BCM's are not sensitive to currents $< 4\mu\text{A}$ and corrections need to be applied.
- After applying different fitting methods on the data, the Argon target boils up to 23 -24% at high current ($> 18\ \mu\text{A}$)
- The Argon density “seems to be” quadratic (not linear with beam current).



Thanks!



