

From: Nigel Buttimore nbuttimore@gmail.com
Subject: Note on He-3
Date: December 11, 2024 at 16:37
To: Rathmann, Frank frathmann@bnl.gov

NB

Dear Frank,

The He-3 polarimetry note is at

<https://www.maths.tcd.ie/~nhb/talks/nhbHe3.pdf>

and some of it is published in

<https://www.maths.tcd.ie/~nhb/talks/nhbDiffract2008.pdf>

Events detected between the top light blue [pure elastic 3He-12C] curve of Figure 5 in the talk

<https://www.maths.tcd.ie/~nhb/talks/EICnhb2018nov30.pdf>

and the dark blue [Carbon excitation to the 2+ Hoyle state] curve will omit those events where 12C is excited to the 2+ state.

To omit cases where He-3 is excited to its first excited state, events between the light blue curve and the magenta curve should be selected, the preferred option to ensure elastic scattering.

Experience so far indicates that the inelastic events dilute the analyzing power measurement, but this should be verified in any new kinematic domain.

I will provide clearer plots of the kinematics in March 2024.

Thank you for moderating the discussion. Best wishes,

Nigel