

## **DRAGON meeting minutes 16<sup>th</sup> August 2005**

Present: CR (recorder), CV, MT, JC, DH, BG, BW, HC, LF, TK, JP, DF, AH, AO

1. Minutes of previous meeting accepted.

2.  $^{40}\text{Ca}(\alpha,\gamma)^{44}\text{Ti}$  (CV).

Christoph shows Ion chamber dE1 vs dE2 plot from previous run showing  $^{44}\text{Ti}$  13+ recoils from the strong resonance clearly separated from leaky beam. The plan for this upcoming run is to scan over a large energy range to ensure that we get the same resonance strengths as the published values for the resonances in question.

If there is time, the target pressure will be reduced to 2 Torr to focus on 1 particular resonance.

There is a strong background from  $^{40}\text{Ca}$  leaky beam. There are also some issues with pile-up (at a rate of 10kHz) so that at high background rates the true recoils may be buried by pile-up from the leakies.

A Gd alpha-calibration was shown (also a dE1 vs dE2 plot) showing some of this pile-up. A TAC plot (for the MCP-IC TOF) was also shown. The TAC was started by the leading edge and stopped by the trailing edge of the respective signals.

OLIS will be started today for  $^{40}\text{Ca}$  development.

The CSB needs to be installed, BGO array calibrated to 15 MeV, and the LN2 cooled trap filled.

For future reference it was suggested that we could use shaping amplifiers with inbuilt pile-up rejection circuits.

3.  $^{11}\text{C}$  Production report (BG).

Bing presented a summary of 'E995: the alternative production method for volatile elements', based on the results of the  $^{11}\text{C}$  tests earlier this year. One of the important results of these tests was that a  $^{11}\text{C}$  beam of  $\sim 1 \times 10^7$  /sec was achieved at the ECR tests stand. The results were well received by the EEC committee in July and continuation was encouraged.

4.  $^{20}\text{Ne}(p,\gamma)^{21}\text{Na}$  (MT).

Mike has been working on resolving the apparent discrepancy in resonance strength between previously published  $^{20}\text{Ne}+p$  resonance strengths and DRAGON's results, based on the most recent spate of  $^{20}\text{Ne}$  runs that were taken. His plot (attached) showed the thick target excitation function for the runs, and an attempted fit. It was commented that there seems to be too much scatter in the yields on the plateau of the excitation function. It was also suggested that the fit seemed to be too low compared to the data points, so that something must be amiss. However, the result obtained was still larger than the previously published value. MT is continuing to look into this.

5.  $^{25}\text{Al}+p$  at RIKEN (JP).

Jonty presented a draft of a talk he will this week at MSU based on the

resonant elastic scattering data taken at RIKEN with a  $^{25}\text{Al}$  beam and a solid stopping  $\text{CH}_2$  target. Attached is the Powerpoint presentation he will give.

6. TACTIC (TK).

Thomas presented a summary of the work he has done so far regarding the design of the drift region of the TACTIC chamber. His talk will be made available.

7.  $^{16}\text{O}+^{12}\text{C}$  (DH).

Dave summarized in brief the  $^{16}\text{O}$  run. Although overall success was achieved, there were some issues with bad targets (incorrect thicknesses). New targets were obtained from TIGRESS with gratitude. Overall the beam quality was very good. Chris will liaise with the students regarding GEANT simulations.