

Hall A “LEDEX” E05-004 RunPlan (Last Updated: 14 September 2006)

High-Energy Beam Period ($E_0 = 687$ MeV): Sep. 22 – Oct. 1, 2006

KINEMATICS TABLE (“KIN-TABLE”): FOR PRODUCTION $A(e,e')A$ ELASTIC RUNS: H, D, C, Al, Ta

| KIN POINT | | | Spectrometer Settings | | Primary Target(s) | Pre-Run “Raw Rate” Elastic Scattering Estimates ($d\Omega=2$ msr, $I=1 \mu A$) | | | |
|------------|-----------|-----------|-----------------------|---------------------|--------------------|--|----------|--------------|-----------|
| Sequence # | Q (Gev/c) | Setting # | $p_{e'}$ (MeV/c) | $\theta_{e'}$ (deg) | | LD_2 | | C | |
| | | | | | | Elastic Rate | Goal Cts | Elastic Rate | Goal Cts. |
| 7 | 0.172 | a | 663.69 | 14.5 | All (H, D, Solids) | 27 kHz | 1 M | 7.4 kHz | 1 M |
| 2 | 0.201 | a | 663.69 | 17.0 | All (H, D, Solids) | 12 kHz | 1M | 2.5 kHz | 1 M |
| 8 | 0.247 | a | 663.69 | 21.0 | All (H, D, Solids) | 2.8 kHz | 1 M | 230 Hz | 1 M |
| 1 | 0.281 | a | 663.69 | 24.0 | All (H, D, Solids) | 1.2 kHz | 1 M | 40 Hz | 1 M |
| 9 | 0.298 | a | 663.69 | 25.50 | All (H, D, Solids) | 0.8 kHz | 1 M | 12 Hz | 1 M |
| 3 | 0.353 | a | 663.69 | 30.5 | Solids | 206 Hz | 1M | 0.01 Hz | 1 M |
| | | b | 653.86 | | D, Al | | | | |
| | | c | 623.80 | | H, Al | | | | |
| 10 | 0.400 | a | 663.69 | 35.0 | Solids | 65 Hz | 1 M | 0.3 Hz | 100 k |
| | | b | 644.32 | | D, Al | | | | |
| | | c | 606.67 | | H, Al | | | | |
| 4 | 0.451 | a | 663.69 | 40.0 | Solids | 22 Hz | 500 k | 0.2 Hz | 100 k |
| | | b | 632.78 | | D, Al | | | | |
| | | c | 586.53 | | H, Al | | | | |
| 11 | 0.500 | a | 663.69 | 45.0 | Solids | 8 Hz | 250 k | ? | 100 k |
| | | b | 620.44 | | D, Al | | | | |
| | | c | 565.69 | | H, Al | | | | |
| 5 | 0.551 | a | 663.69 | 50.5 | Solids | 3 Hz | 100 k | ? | 100 k |
| | | b | 606.20 | | D, Al | | | | |
| | | c | 542.46 | | H, Al | | | | |
| 12 | 0.599 | a | 663.69 | 56.0 | Solids | 1 Hz | 30 k | ? | 100 k |
| | | b | 591.50 | | D, Al | | | | |
| | | c | 519.37 | | H, Al | | | | |
| 6 | 0.651 | a | 663.69 | 62.5 | Solids | 0.4 Hz | 10 k | ? | 100 k |
| | | b | 573.86 | | D, Al | | | | |
| | | c | 492.79 | | H, Al | | | | |
| 13 | 0.700 | a | 663.69 | 69.0 | Solids | 0.2 Hz | 5 k | ? | 100 k |
| | | b | 556.27 | | D, Al | | | | |
| | | c | 467.41 | | H, Al | | | | |

CHOOSING CURRENT AND/OR PRESCALES: want max DAQ rate that keeps deadtime $\approx 10\%$ or less. Current range from $\approx 0.5 \mu A$ to $20 \mu A$. Try for prescale=1 when rates are low enough, otherwise use lowest current and set prescale to get deadtime.

SOLID TARGETS: Use Ta, Al 4-cm dummy, and C single foil.

GOAL Counts: Per run. Measure each cross section at least two times. Use both raster on and off (each twice) at low currents. Runs generally should end at 1 M events or ~ 30 minutes beam time, whichever comes first. Running Al for the same integrated charge as the corresponding H/D is more than sufficient.