

**Hall A “LEDEX” RunPlan**  
**1<sup>st</sup> Low-Energy Beam Period ( $E_0 = 362$  MeV): July 24 – Aug. 20, 2006**  
**E05-103**

**PROCEDURES FOR PHOTODISINTEGRATION PRODUCTION SEQUENCE**

**1. Change Spectrometer Settings and Take Pointing Measurements**

- **Change HRS-L momentum & angle** settings to those specified for the current PRODUCTION Kinematics Point from the Kin-Table (follow Counting House “Whiteboard” instructions from J. Lerosé for cycling quads when setting momentum; see “How To” on LEDEX webpage).
- Small collimator on HRS-L (will be already bolted in place).
- Check beam position on BPMs (few-tenths of mm on each); set **Raster ON: ASK MCC for “6 x 4.5”** ( $\pm \approx 3$  mm in X and Y)
- Set prescales T3=low; other prescales set high (65535) for low downtime.
- Beam current of **up to 20 microamps** (up to max DAQ rate of 2-3 kHz)
- Set target to following settings, and take 5 minutes of pointing data at each setting (separate run for each target). (Target C “optics” is **not** the slanted one)

$p_h$ (GeV/c)	$\theta_h$ (deg)	Target	Time (min)
Look up for current Kin. Point in Kin-Table		C “optics”	5
		4 cm Dummy	5
		15 cm Dummy	5
		Tantalum	5

**2. Production Measurement Sequence:**

- **FPP Carbon Doors:** place **either** the **3” doors** (if momentum above  $\sim 660$  MeV/c), **1.5” doors** (if central momentum between  $\sim 560$ -660 MeV/c) **or NO doors** (less than  $\sim 560$  MeV/c)  $\rightarrow$  check FPP Figure of Merit Simulation / runplan document.
- Check beam position on BPMs; ensure RASTER ON (see notes above).
- Set prescales T3=low; other prescales set high (65535) for low downtime.
- Pre-run estimates are that Beam Currents between 1-4  $\mu$ A will provide the max DAQ rate of between 2-3 kHz. In each case, the current should be adjusted to give max DAQ rate between 2-3 kHz.
- Set target/radiator to settings indicated in Table below, but:
  - **FIRST:** TAKE A FEW MINUTES OF DATA AT EACH TARGET/RADIATOR COMBINATION IN TABLE BELOW IN ORDER TO DETERMINE RATES (AND MAX CURRENT THAT CAN BE USED FOR EACH COMBO) – THEN STEFFEN’S LEXEX WEB-CALCULATOR WILL BE USED TO DETERMINE MODIFIED RUN TIMES FOR EACH RUN TYPE (**the split of times given below is a rule-of-thumb split of luminosity into 50%-25%-25%-short**).
  - **THEN:** take FPP data for the approximate times indicated below (final run times will come from above running of Steffen’s calculator, using rates/currents for each point).

$p_h$ (GeV/c)	$\theta_h$ (deg)	Target	Radiator	DAQ Rate (kHz)	Time (hr)
As set in first step above (1.)		LD <sub>2</sub>	IN	2-3 (max)	$\sim 6$
		LD <sub>2</sub>	NONE	2-3 (max)	$\sim 3$
		LH <sub>2</sub>	IN	2-3 (max)	$\sim 3$
		LH <sub>2</sub>	NONE	2-3 (max)	0.2