Instrumentation Request List for Experiment E05-102

Beam	
Polarization [%]	>= 75%
Beam polarimetry (Compton/Møller)	both
Helicity flip scheme (delayed/quartet/duo)	quartet (?)
Energy range [GeV]	2.4 GeV only
Energy measurement (Arc/EP)	both
Current range [μA]	1-12
Spot size (h x v) [σ] [μm]	100 μm (?)
Raster size (square/round) (h x v/ø) [mm]	< 4 mm diameter
Energy spread [σ]	< 1e-4
Energy lock	on

Targets (specify thickness)

Photon radiator	no
LH2 (4/15/20 cm)	no
LD2 (4/15/20 cm)	no
Helium-3/4 (4/10/15/20 cm)	no
Target ladder angle (w.r.t. beam)	90°
Solid targets (specify each)	C, Ta, BeO
Polarized Helium-3 target (25/40 cm)	40 cm length, min. 35% polarization
Reference Cell (same length)	H & D

Spectrometers (specify required detectors)

HRS-L		**HRS-R**	
Angle range [°]	15° fixed	Angle range [°]	12.5° fixed
Momentum range [GeV/c]	2.294 fixed	Momentum range [GeV/c]	2.332 fixed
VDC1	yes	VDC1	yes
VDC2	yes	VDC2	yes
S0	not needed	S0	not needed
S1	yes	S1	yes
S2	yes	S2	yes
Gas Cherenkov (long/short)	yes (either)	Gas Cherenkov (long/short)	yes (prefer long)
A1	no		
A2	no		
FPP	no		
Preshower/Shower	yes	Preshower/Shower	yes

Trigger/DAQ

Coincidence/single	HRSL+BigBite and HRSL+ndet coincidence, HRSR single-arm
Define trigger	electron in HRSL and ((anything in BigBite) or (anything in ndet))

Other Instrumentation

BigBite Spectrometer with 2 pairs of MWDCs and E/dE scintillator planes at about 73°

Neutron detector behind BigBite at roughly the same angle