Requirements for x>1 ³He/³H (E12-11-112)

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E12-11-112: Kinematic coverage

Beam current: 25 µA, unpolarized, Raster interlock Beam energy: 17.5 Days 4.4 GeV [main production]



Left HRS running (~16 days)



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> Left HRS running (~16 days)

Left+Right HRS running (about 1 day)





E12-11-112: Kinematic coverage

Beam current: 25 µA, unpolarized, Raster interlock Beam energy: 17.5 Days 4.4 GeV [main production] 1.5 days 2.2 GeV [checkout+QE]

> Right HRS running ("parasitic") Existing ³H QE data limited Q² ≤ 0.9 GeV²

Left HRS running (~16 days)

Left+Right HRS running (about 1 day)





E12-11-112: Isospin study from 3He/3H





QE data and Neutron Magnetic FF



This experiment: 0.6, 0.8, 1.0, 1.4, 1.7, 2.4, 2.7 and 3.0 GeV²



In PWIA, ³He/³H with 1.5% uncertainty corresponds to 3% on G_Mⁿ

Limited to Q² ≤ 1 GeV², where QE peak has minimal inelastic contribution
This is the region with ~8% discrepancy between the Ankin, Kubon data and the CLAS ratio and the Hall A polarized ³He extraction.

Nuclear effects expected to be small, largely cancel in ratio

E12-11-112 Systematics

	δσ/σ	δR/R	δR/R
		(normalization)	(pt-to-pt)
Acceptance correction	2.0%*	0.5%	1.0%
Radiative correction	3.0%*	-	0.3%
Tracking efficiency	1.0%*	-	0.2%
Trigger efficiency	0.5%*		0.1%
PID efficiency	1.5%*	-	0.2%
Target thickness	2.0%	2.0%	-
Charge measurement	0.5%	-	0.5%
Energy measurement	0.05%	-	-
COMBINED UNCERTAINTY	4.6%	2.1%	1.2%

