

E12-11-112 Run Plan

Shujie Li

Schedule

Sept 04 - Sept 10: possible 5 pass beam, no Tritium cell

Sept 19 - Oct 19 : 2 pass beam, production

Beam time: 30 days * 24 hours * 50% efficiency = 360 hours

Tasks:

- QE: 1H(calibration) , 2H, 3H, 3He (GEn)
- $x > 1$: 2H, 3H, 3He (2N SRC isospin)
- $x > 2$: 3H, 3He (3N SRC)
- $x < 1$: EMC (duality test) ?

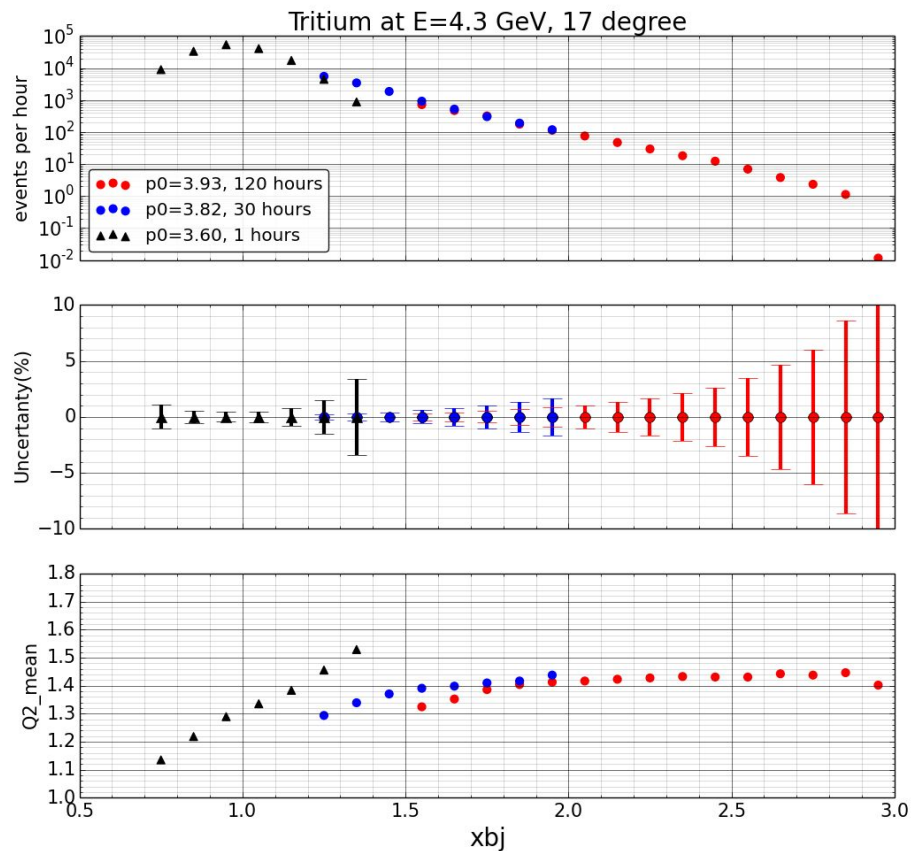
Commissioning (before Sept 19 if possible)

- **Detector checkout**
 - LHRS Calorimeter FADC readout
 - RHRS Cherenkov, Aerogel (will this one set aside during run?)
 - Detector position survey ?
- **Calibration**
 - Detector calibrations
 - Beamline
 - Optics (LHRS for Q1 saturation at $x > 2$ setting, RHRS at normal tune)
- **Boiling study**

LHRS:

dedicated SRC measurement at 17 degree

	1H	2H	3H	3He
Ratio of $x > 1$ rates		1.31	1.27	1
Kinematics	Beam time (hours)			
$X_{bj} = 1$	1	1	1	1
$X_{bj} > 1$		30	30	40
$X_{bj} > 2$			120	150

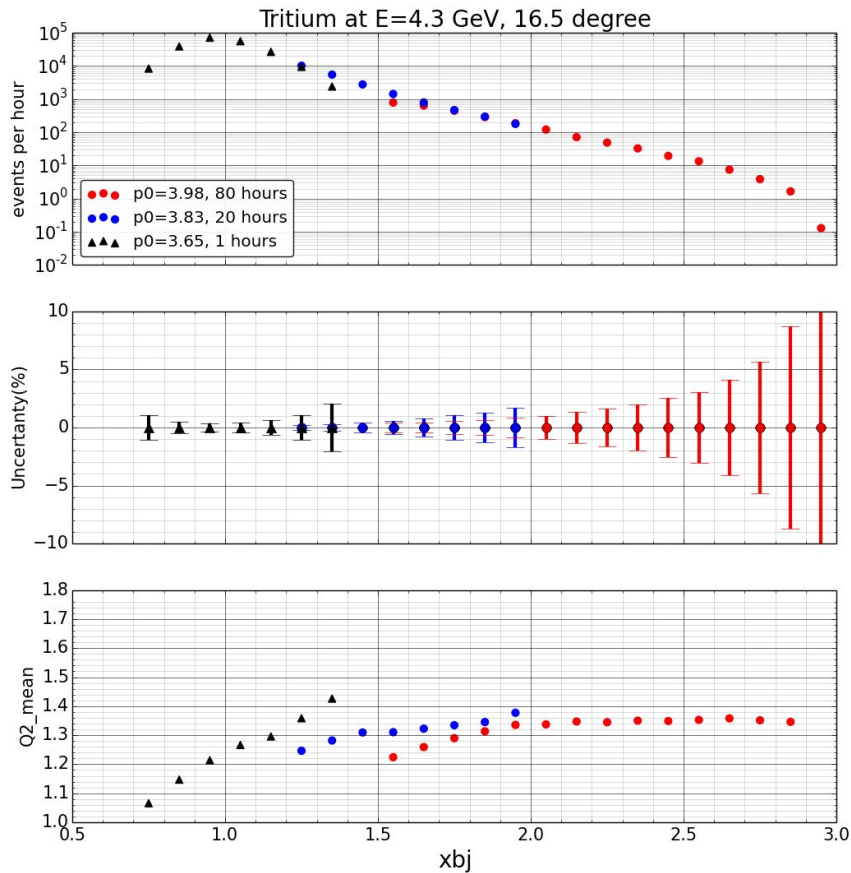


LHRS:

dedicated SRC measurement at 16.5 degree

Rate is 50% higher than at 17 degree

	1H	2H	3H	3He
Ratio of $x > 1$ rates		1.31	1.27	1
Kinematics	Beam time (hours)			
$X_{bj} = 1$	1	1	1	1
$X_{bj} > 1$		20	20	30
$X_{bj} > 2$			80	80



RHRS:

1. QE at various angles:

x	Q2	E	Ep	theta
1	1	4.3	3.767	14.280
1	1.8	4.3	3.341	20.400
1	2.2	4.3	3.127	23.348
1	2.5	4.3	2.967	25.586
1	3	4.3	2.701	29.458
1	3.5	4.3	2.434	33.628

} RHRS $p_0 < 3.14$ GeV

2. (Optional) match the MARATHON xbj setting to take 3H, 3He, 2H ratios

Eb	Ep	theta	x	Q2	W2
4.3000	2.0000	23.0000	0.3169	1.3673	3.9475
4.3000	2.0000	25.0000	0.3735	1.6115	3.7033
4.3000	1.7000	32.0000	0.4555	2.2215	3.6561
4.3000	1.5000	38.0000	0.5206	2.7347	3.5181
4.3000	1.4000	42.0000	0.5684	3.0925	3.3479
4.3000	1.5000	42.0000	0.6308	3.3134	2.9394

