

E02-013 Analysis Update

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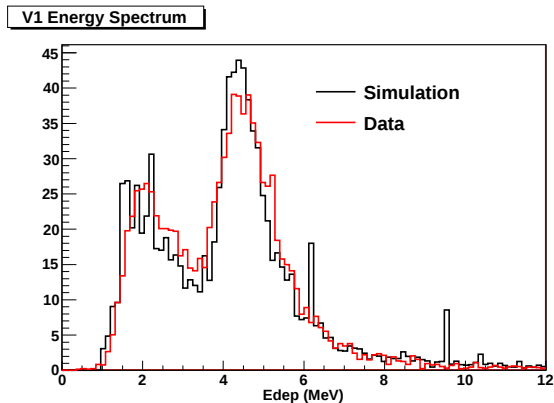
- ▶ Continuing work on MC
- ▶ Did Kin 4 G_E^n calculation

Done over the last week:

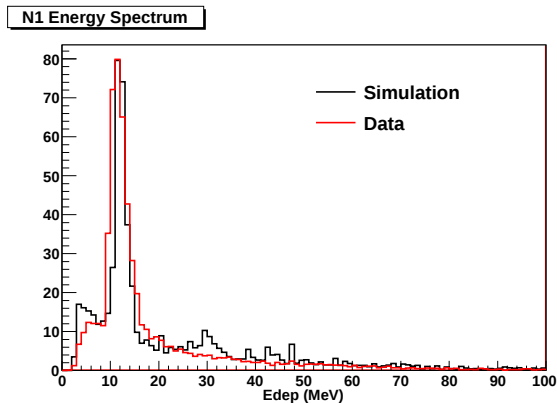
- ▶ Run with Birk and QE applied to energy deposition
- ▶ Trigger from discriminator sums
- ▶ Proper responses for all bars
- ▶ Run with inelastics
- ▶ Compare to data with various cuts

- Energy Deposition looks better

Veto 1:



Neutron Arm Plane 1:



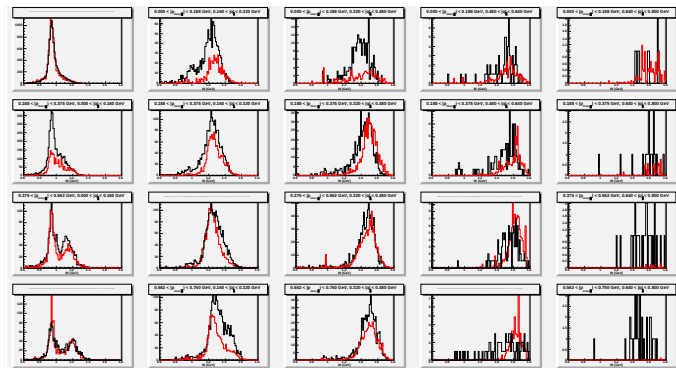
	Data	Sim.
V1 Eff	0.975	0.974
V2 Eff	0.978	0.969
Elas. N1 w/ Any Veto	0.983	0.988
Elas. Cluster w/ Any Veto	0.960	0.974

Monte Carlo Developments

- ▶ ^3He NA response
- ▶ Includes inelastics

	Data	Sim.
Un/Ch (^3He)	0.115 ± 0.001	0.113
Un/Ch (H_2)	0.028 ± 0.001	0.017
n Purity	0.747 ± 0.017	0.862
$\eta_p^{(n)} / \eta_p^{(p)}$	0.028 ± 0.001	0.016
$\eta_n^{(p)} / \eta_p^{(p)}$	0.034 ± 0.161	0.090
$\eta_n^{(n)} / \eta_p^{(p)}$	0.417 ± 0.032	0.528
$\eta_p^{(n)} / \eta_n^{(n)}$	0.068 ± 0.006	0.030
$f = N_p / N_n$	2.20	2.20
n det. eff.	-	0.450
p det. eff.	-	0.507
n/p		0.887

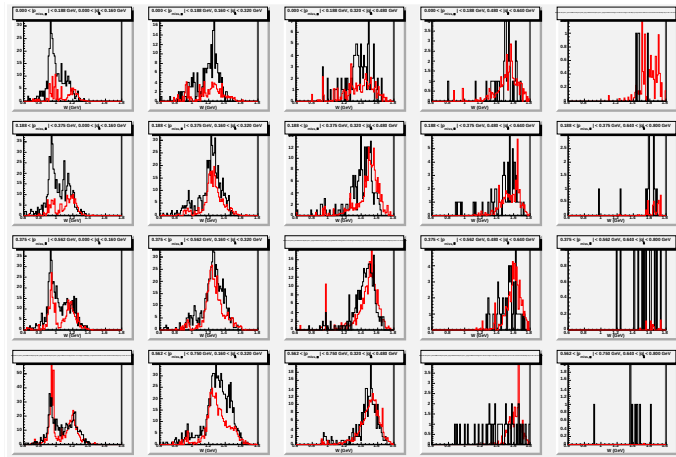
Monte Carlo Developments



- ▶ Vertical - $p_{\text{miss},\parallel}$ - 90 MeV
- ▶ Horizontal - $p_{\text{miss},\perp}$ - 160 MeV

Monte Carlo Developments

Neutral Only



- ▶ Vertical - $p_{\text{miss},\parallel}$ - 90 MeV
- ▶ Horizontal - $p_{\text{miss},\perp}$ - 160 MeV

Latest G_E^n Results

$$D_{N_2} = 0.946 \pm 0.001$$

$$D_p = 0.749 \pm 0.015$$

$$D_{\text{back}} = 0.967 \pm 0.019$$

$$D_{\text{FSI}} = 0.950 \pm 0.050$$

$$N_{\text{QE}} = 133952$$

$$A_{\text{raw}} = -0.056 \pm 0.003$$

$$A_{\text{phys}} = -0.2484 \pm_{\text{sys}} 0.019$$

$$\pm_{\text{stat}} 0.012$$

$$G_E^n = 0.033 \pm_{\text{sys}} 0.003$$

$$\pm_{\text{stat}} 0.004$$

- ▶ This is close to thesis values
- ▶ (See text file for full result output)

- ▶ Look more closely at H_2 results
- ▶ Come up with method for inelastic corrections
- ▶ Do for kin3, 2