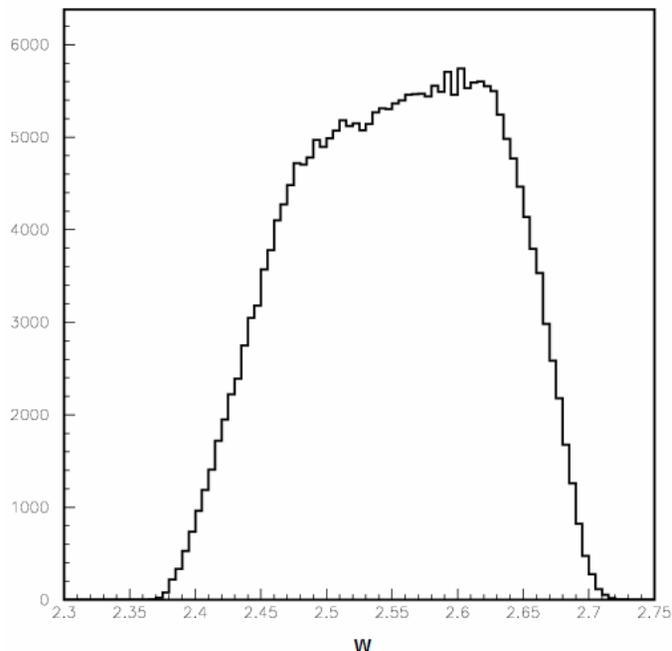
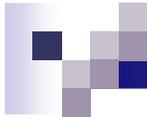


# Packing Fraction Run Plan

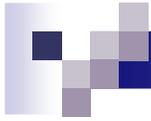
- Good e- rates
- DIS Kinematics
  - $W \geq 2.5$  GeV
  - $E' \geq 2$  GeV
  - Negligible e+ rates
- Featureless x-sections
- 4 inserts: 2 cups, 1 carbon cell each
- 4 different configurations:
  - 4.7 GeV, 180° and 80° fields
  - 5.9 GeV, 180° and 80° fields
- C, C+He runs need to be done for each insert in each config.
- 90 beam hours/insert





|  | Calibration |    |        | Data |         |         |      | Moller |       | C runs |       | Commiss |
|--|-------------|----|--------|------|---------|---------|------|--------|-------|--------|-------|---------|
|  | B OFF       | B  | B anti | 4.7  | 4.7 80° | 5.9 80° | 5.7  | B anti | B 80° | B anti | B 80° |         |
| Run plan calendar days                   | 1           | 2  | 2      | 6    | 12      | 21      | 10   |        |       |        |       | 12      |
| Run plan PAC hours                       | 12          | 24 | 24     | 72   | 144     | 252     | 120  | 7      | 14    | 7      | 13    | 144     |
| Proposal hours                           | 12          | 24 | 24     | 70   | 130     | 200     | 100  | 7      | 14    | 7      | 13    | 144     |
| Proposal Data + systematics              |             |    |        | 76   | 141     | 216     | 108  | 4      | 8     | 4      | 8     |         |
| Efficiency: (proposal+syst.) / run plan  |             |    |        | 1.05 | 0.98    | 0.86    | 0.90 |        |       |        |       |         |
| Tentative 11/07                          |             |    |        | 5    | 9       | 21      | 18   |        |       |        |       |         |
| Tentative PAC hours                      |             |    |        | 60   | 108     | 252     | 216  |        |       |        |       |         |
| Efficiency: (proposal+syst.) / tentative |             |    |        | 1.26 | 1.30    | 0.86    | 0.50 |        |       |        |       |         |

| <b>E<sub>0</sub> = 4.734 GeV, E' = 2.0 GeV, θ = 18 deg</b> |              |                          |           |        |                 |           |              |                          |           |        |                 |
|--|--------------|--------------------------|-----------|--------|-----------------|-----------|--------------|--------------------------|-----------|--------|-----------------|
| PARALLEL FIELD   |              |                          |           |        |                 | 80° FIELD |              |                          |           |        |                 |
| target   | e- rate [Hz] | time [hr] * for 1% stats | # inserts | # runs | total time [hr] | target    | e- rate [Hz] | time [hr] * for 1% stats | # inserts | # runs | total time [hr] |
| NH3  | 8.8          | 0.3                      | 1         | 2      | 0.6             | NH3       | 5.0          | 0.6                      | 2         | 2      | 2.2             |
| C  | 7.9          | 0.4                      |           | 3      | 1.1             | C         | 4.4          | 0.6                      |           | 3      | 3.8             |
| C+He   | 10.3         | 0.3                      |           | 3      | 0.8             | C+He      | 5.5          | 0.5                      |           | 3      | 3.0             |
| He   | 3.0          | 0.9                      |           |        | 0.9             | He        | 1.7          | 1.7                      |           |        | 1.7             |
| Empty  | 0.5          | 6.0                      |           |        | 6.0             | Empty     | 0.3          | 11.1                     |           |        | 11.1            |
| <b>E<sub>0</sub> = 5.9 GeV, E' = 2.3 GeV, θ = 16 deg</b>   |              |                          |           |        |                 |           |              |                          |           |        |                 |
| PARALLEL FIELD   |              |                          |           |        |                 | 80° FIELD |              |                          |           |        |                 |
| target   | e- rate [Hz] | time [hr] * for 1% stats | # inserts | # runs | total time [hr] | target    | e- rate [Hz] | time [hr] * for 1% stats | # inserts | # runs | total time [hr] |
| NH3  | 9.4          | 0.3                      | 3         | 2      | 1.8             | NH3       | 5.2          | 0.5                      | 2         | 2      | 2.2             |
| C  | 7.8          | 0.4                      |           | 3      | 3.6             | C         | 4.6          | 0.6                      |           | 3      | 3.6             |
| C+He   | 10.5         | 0.3                      |           | 3      | 2.7             | C+He      | 6.1          | 0.5                      |           | 3      | 2.7             |
| He   | 3.0          | 0.9                      |           |        | 0.9             | He        | 1.8          | 1.6                      |           |        | 1.6             |
| Empty  | 0.5          | 5.8                      |           |        | 5.8             | Empty     | 0.3          | 10.0                     |           |        | 10.0            |
| * 1% statistics per 15MeV bin in W                         |              |                          |           |        |                 |           |              |                          |           |        |                 |



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- 4 different configurations:
  - 4.7 GeV, 180° and 80° fields
  - 5.9 GeV, 180° and 80° fields
- C, C+He runs need to be done for each insert in each config.
- 90 beam hours/insert

|  | Calibration |    |        | Data |         |         |      | Moller |       | C runs |       | Commiss |
|--|-------------|----|--------|------|---------|---------|------|--------|-------|--------|-------|---------|
|  | B OFF       | B  | B anti | 4.7  | 4.7 80° | 5.9 80° | 5.7  | B anti | B 80° | B anti | B 80° |         |
| Run plan calendar days                   | 1           | 2  | 2      | 6    | 12      | 21      | 10   |        |       |        |       | 12      |
| Run plan PAC hours                       | 12          | 24 | 24     | 72   | 144     | 252     | 120  | 7      | 14    | 7      | 13    | 144     |
| Proposal hours                           | 12          | 24 | 24     | 70   | 130     | 200     | 100  | 7      | 14    | 7      | 13    | 144     |
| Proposal Data + systematics              |             |    |        | 76   | 141     | 216     | 108  | 4      | 8     | 4      | 8     |         |
| Efficiency: (proposal+syst.) / run plan  |             |    |        | 1.05 | 0.98    | 0.86    | 0.90 |        |       |        |       |         |
| <b>Tentative 11/07</b>                   |             |    |        | 5    | 9       | 21      | 18   |        |       |        |       |         |
| Tentative PAC hours                      |             |    |        | 60   | 108     | 252     | 216  |        |       |        |       |         |
| Efficiency: (proposal+syst.) / tentative |             |    |        | 1.26 | 1.30    | 0.86    | 0.50 |        |       |        |       |         |

| Configuration      | 4.7 GeV | 4.7 GeV 80° | 5.9 GeV | 5.9 GeV 80° |
|--------------------|---------|-------------|---------|-------------|
| Run plan PAC hrs   | 72      | 144         | 252     | 120         |
| # inserts required | 1       | 2           | 2       | 2           |