

Asymmetry and Error Budget

Kin 2a – 11059 neutral events

Variable	Value	Uncertainty	% Uncertainty
A_{obs}	-0.0375	0.010(stat)	25.4%
D_{N_2}	0.928	0.0186	2.0%
$P_{^3He}$	0.375	0.0165	4.4%
P_n	0.86	0.02	2.3%
P_e	0.862	0.011	1.3%
D_{FSI}	0.95	0.05	5.3%
$D_{background}$	0.926	0.002	0.22%
$D_{p/n}$	0.819	0.0480	1.9%
A_{phys}	-0.2015	0.016	7.9% (syst.)

Kin 2b – 26032 neutral events

Variable	Value	Uncertainty	% Uncertainty
A_{obs}	-0.03779	0.006(stat)	16.4%
D_{N_2}	0.951	0.012	1.3%
$P_{^3He}$	0.493	0.0222	4.5%
P_n	0.86	0.02	2.3%
P_e	0.848	0.011	1.3%
D_{FSI}	0.95	0.05	5.3%
$D_{background}$	0.948	0.001	0.1%
$D_{p/n}$	0.824	0.0262	3.2%
A_{phys}	-0.1489	0.012	8.2% (syst)

$$A_{\parallel} \cdot \cos \theta = -0.0108$$

Combining asymmetries gives $A_{phys} = -0.1646 \pm 0.023(\text{stat}) \pm 0.014(\text{syst.})$ (16.4%)

This gives us $\Lambda = -0.188 \pm 0.024$ (12.7%) (comb.)