NPP Acceptance Error
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Table 3: Uncertainties in the extraction of π^0 polarizabilities $\alpha_{\pi^0} - \beta_{\pi^0}$

	Source	Uncertainty
1	Statistical uncertainty	2.3 %
2	Flux normalization	1.5 %
3	Signal extraction	3.0 %
4	Detector acceptance and efficiency	3.5 %
5	Total systematic error	4.8%
6	Total error on cross section	5.3%
7	Projected error in $\alpha - \beta$	41%

4. Detector acceptance and efficiency. We can measure the detector acceptance times efficiency for the process $\gamma\mathrm{Pb} \to \pi^0\mathrm{Pb}$ with an accuracy of 3.5% (Section 6.2), which should allow us to reduce the systematic uncertainty in the acceptance calculation for the process of interest to this level.

Section 6.2: Cross section verification with the exclusive single π^0 photo-production (Ilya Larin)

Item	Description	PrimEx π^0	NPP π^0	Comment
1	Stat. error	2.5%	1.0%	differences from geometry and flux, Pb only
2	Syst. error	2.1%		Pb only, (PrimEx 2a) + (PrimEx 2b)
2a	Yield extraction syst.	1.6%		partly statistics driven, should be slightly worse for NPP because of FCAL resolution vs. HyCal resolution and because of no charged particle sweep for NPP
2b	Beam flux accounting syst.	1.0%		will cancel out for NPP
3	Total error (stat. + sys.)		2.5-3.5%	(NPP 1) + (PrimEx 2a)
4	Total error on π^0 radiative width	1.5%		all targets (C, Pb, Sn)

Flux normalization error for NPP $2\pi^0$ = (NPP 3) + (PrimEx 4) = 3.0-4.0%