

Table 1: *Physical characteristics of potential calorimeter materials (at or near room temperature). Here λ_{max} is the wavelength of maximum emission of scintillation light, τ is the decay constant, X_0 is the radiation length, ρ is the density, and R_M is the Molière radius of the material.*

Material	λ_{max} (nm)	τ (ns)	ρ (g/cm^3)	N_γ/MeV	X_0 (cm)	R_M (cm)
NaI(Tl)	415	230	3.67	38000	2.6	4.5
CsI(undoped)	315	16,35?	4.51	2300	1.9	3.8
Bi ₄ Ge ₃ O ₁₂ (BGO)	480	300	7.13	8200	1.1	2.4
Lead Glass			3.5-3.9		2.3-2.6	3.0-5.0
PbWO ₄	460	~5,~20, ~100,~1000	8.28	~500	0.9	2.2
BaF ₂	220 (fast) 310 (slow)	0.8 630	4.88 4.88	1000 6000		
BrilLanCe 350	350	28	3.85	30000		
BrilLanCe 380	380	16	5.08	60000		
PreLude (LYSO)	420	41	7.1	28000	1.10	
YAG(Ce)	550	70	4.55	6000		
Gd ₂ SiO ₅ (Cs) (GSO)	350	60	6.7	9000	1.38	

Table 2: *Design parameters of various other Compton polarimeters. Here E_e is the electron beam energy, I_e is the electron beam current, and k is the laser wavelength and energy. The Compton edge for the listed polarimeters is comparable to the value during Qweak running.*

Polarimeter	E_e (MeV)	I_e (mA)	k (nm, eV)	Crystal and geometry	Laser
MIT-Bates	300–1000	< 100	532, 2.33	CsI, $10 \times 10 \times 25$ cm ³	CW, 5 W
Hall A	800–6000	0.1	1064, 1.165	PbWO ₄ , $25 \times 2 \times 2 \times 23$ cm ³	FP, 1700 W
NIKHEF	440–720	200	514, 2.4	CsI, $10 \times 10 \times 24$ cm ³	CW, 10 W
Mainz	350–855(–1508)	0.1	514, 2.4	BaF ₂	IC, 80 W
Hall C	1165 and up	0.180	532, 2.33	?	“CW”, 90 W