Summary of Changes on Calibrator Readings
Shown is the difference from measured discrimination values taken at ETR on August 28 for 1-10 unit

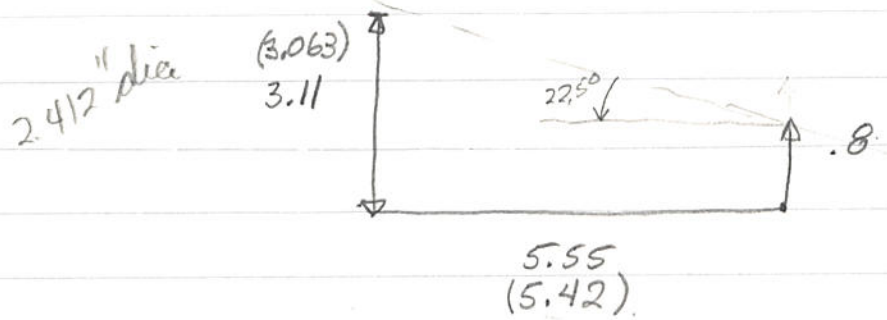
	Aug 28 @ Room	Oct 3 @ 0.3°C	Diff	Thermal Shift +25°C to -a
A1	210 Kev	212 Kev	-1%	1.3%
A2	440	455	-3%	1.5%
A3	925	946	+2%	1.8%
A4	2.38 Mev	231	-2.9%	2.0%
A5	4.48	4.59	+2.4%	2.5%
A6	7.48	8.75	-7.7%	0.8%
A7	21.2	20.9	-1.6%	0.9%
B1	206 Kev	197	-4.3%	4.1%
B2	445	401	-10%	3.5%
B3	809	867	+6.7%	3.5%
B4	3.82 Mev	3.88	+1.5%	0.9%
B5	7.51	7.31	-2.7%	-2%
B6	14.8	15.4	+4.1%	4.2%
C2	2.98	3.01	+1.1%	.3%
C3	3.95	3.97	+0.5%	.7%

1.3

+.2"

1.50

5.5
4 | 22



$$G = \frac{\pi}{2}^2 \left\{ \underbrace{R_1^2 + R_2^2 + \ell^2}_{41.1146.\ (39.398)} - \left[\underbrace{(R_1^2 + R_2^2 + \ell^2)^2}_{41.1946} - 4R_1^2 R_2^2 \right]^{1/2} \right\}$$

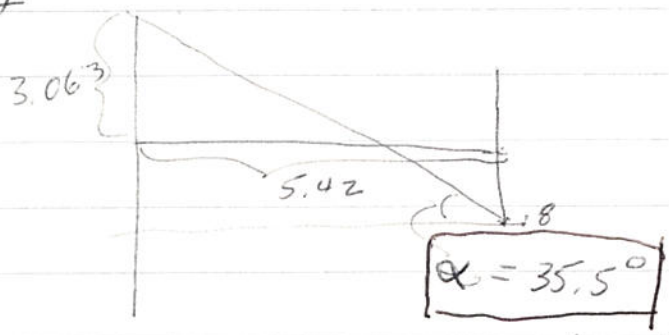
.3058

$G = \underline{1.51}\ cm^2\ sr.$

$G = 0.320\ cm^2 sr.$

P7 = flux * G(7)

MAX 4



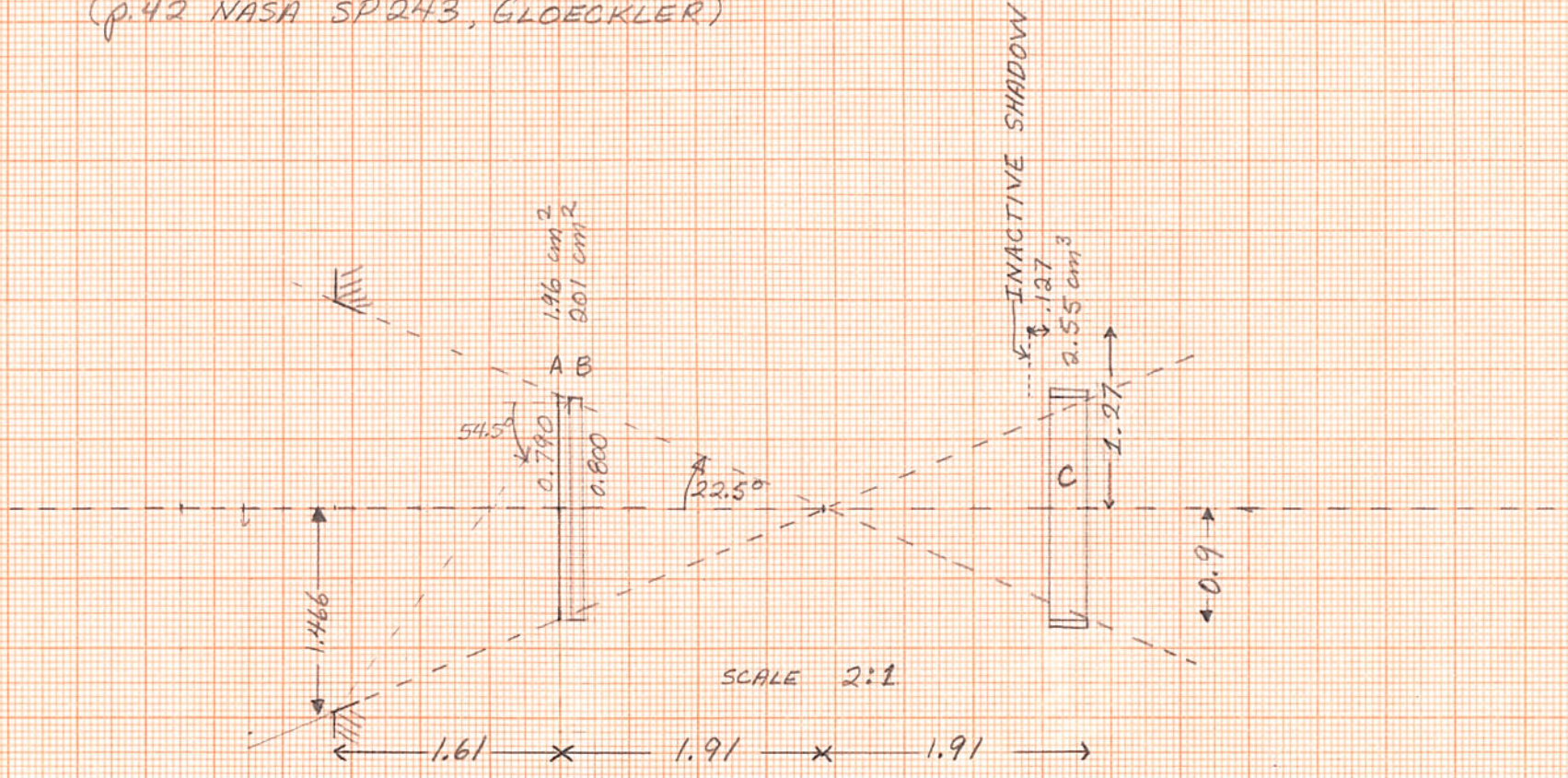
proj depth factor = 1.23

= 50.96 μ for J

9/6/72

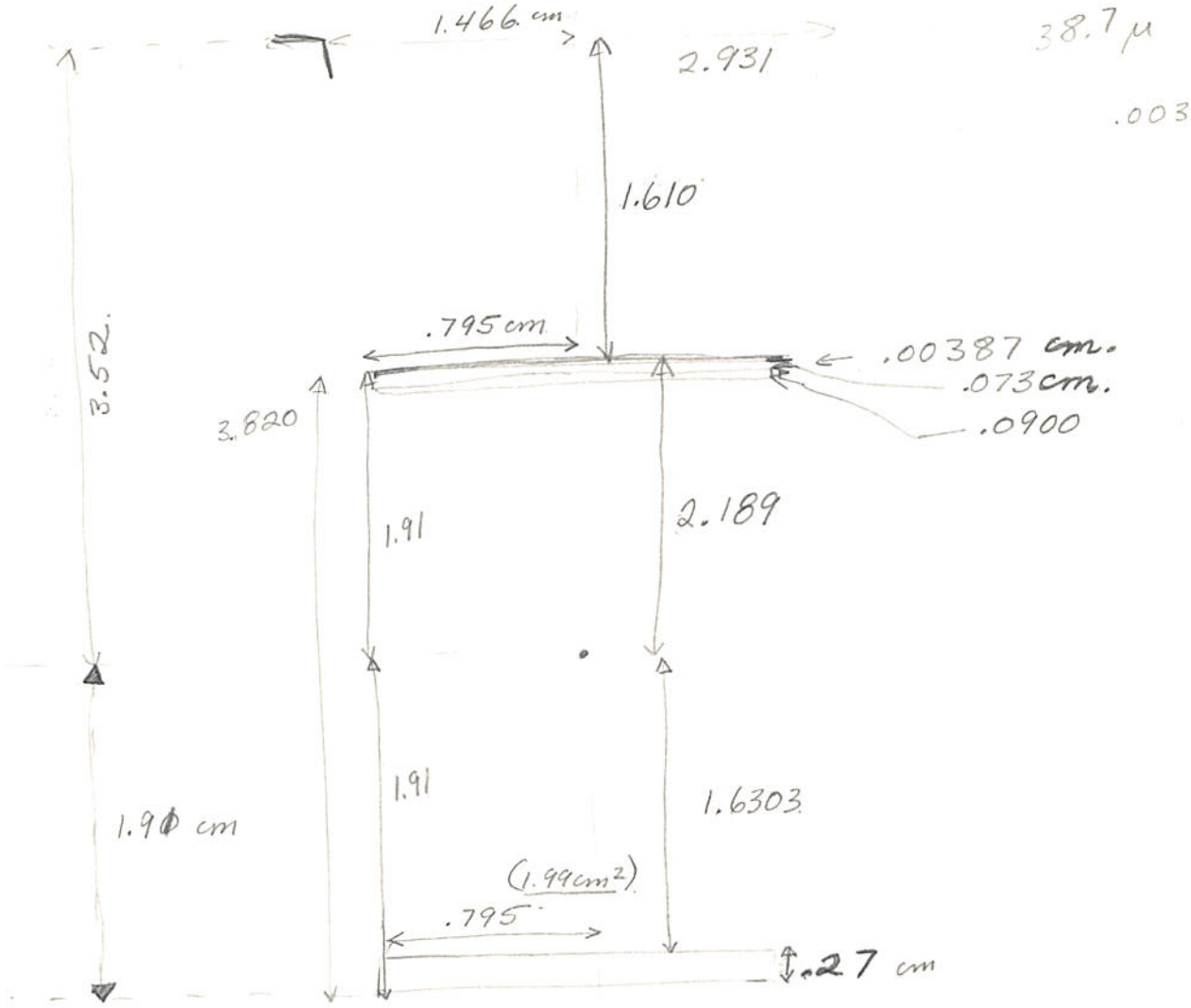
$$G = \frac{\pi}{2}^2 \left\{ R_1^2 + R_2^2 + \ell^2 - \left[(R_1^2 + R_2^2 + \ell^2)^2 - 4R_1^2 R_2^2 \right]^{1/2} \right\}$$

(p. 42 NASA SP243, GLOECKLER)



CASES	R_1	R_2	ℓ	G
A, B, AB	1.466	.8	1.61	2.66 $cm^2 sr$ (WRONG)
BC	.8	.9	3.82	0.320 $cm^2 sr$
$B\bar{C}$	.8	1.27	3.42	0.734 $cm^2 sr$ (0.414 $cm^2 sr$)

1.79 MeV A proton
18 MeV α proton



38.7 μ

.003

15.87724

5.381125

13.94493

13.80055

August 28, 1972
Start Thursday
first C2 Repairs

Thresholds		Calibrator		AP's		Logic		Calibrate	
A1	210 Kev	A1.	1030	AP1. (5) 250, (3) 25		P1	✓	A1	183
A2	440	A2.	375	2. (5) 81, (4) 06		P2	✓	A2	434
A3	925	A3.	806	3-07		P3	✓	A3	939
A4	2,38 Mev	A4.	1122	4 120		P4	✓	A4	2251
A5	4.48	A5.	111	5 192.		P5	✓	A5	4501
A6	9.48	A6.	1437	6 (5) 439 (3) 152 (4) 2913 02		P6	✓	A6	7790
A7	21.2 Mev	A7.	816	7 (5) 150 02		P7	✓	B1	221
B1	206 Kev	B1.	915	8 (5) 147 (3) 448		P8	✓	B2	432.
B2	445	B2.	1190			P9	✓	B3	833
B3	809 Kev	B3.	589	Voltages		P10	✓	B4	3907
B4	3.82 Mev	B4.	626	-23 - 256		P11	✓	B5	8227
B5	7.51	B5.	200	+6 - 597		α1	✓	B6	15011
B6	14.8	B6.	656	+20 - 206		α2	✓	C2	3167
C1	1.49	C2.	915*	+250 - 213		α3	✓	C3	4446
C2	2.98	C3.	317	+450 - 257		α4	✓		
C3	3.95	C4.	151	HV1 - 368		α5	✓		
C4	6.95			HV2 - 331		α6	✓		
C5	26.4					α7	✓		
B7*	180.1 Mev			Noise (12) (88)		Z1	✓		
				A_0 132 202		Z2	✓		
				A_3 898 950		E4	✓		
A0	170	M		B_0 183 210		E5	✓		
B0	196	S		B_3 795 822		E6	✓		
C0	323			C_0 311.5 335					

PET Foil Thickness - Imp Hdl 3 July 73

J.C

PET SN	Foil (Nom) μ inches	Foil (measured) μ inches	PKG
002	12.5	13.68	APP1-10
003	12.5	11.9	APP1-11

Tom:

Measured Thickness of Foil was 28 μ inches.

J. C.

FOIL = 12×10^{-6} INCHES Ni
= 30.5×10^{-6} cm = .0000305 cm =

Final Discrimination Level settings for IMP H flight Unit

Detector A_0 = .164

		Present Level (Mev)	Desired Level (Mev)	
A1	62 KEV	.220	.210	.210
A2		.437	.437	.437
A3		.923	.923	.923
A4 (A_0)	80 KEV	2.58	2.50 → 2.4	2.50
A5		4.63	4.50	4.50
A6	80 KEV	8.85	10.0 → 9.5	10.0
A7		22.3	21.0	21.0
Z			180.00	180.00

Detector B BO .152

B1	27 KEV	.244	.209	.200
B2		.438	.456	.460
B3		.826	.826	.826
B4		3.60	3.90	3.90
B5		7.81	7.70	7.70
B6		14.0	15.0	15.0
B7		31.0	25.0	25.0

Detector C

C1	38 KEV	1.50	1.50	1.50
C2		3.02	3.00	3.00
C3		4.96	4.05	4.0
C4		7.88	7.30	7.0
C5		30.1	27.0	26.0

D1 = 38.7 μ (ORTEC.)
D2 = 900 μ - meas at NRL & SREL
D3 = 2700 μ. "

↑ Actually measured

Latest for Spr 72 Calib Jmp H Flight.

		Energy Range (Nominal)
P1	A1 $\overline{B1}$ $\overline{A2}$ $\overline{M}$	0.275 — 0.500
P2	A2 $\overline{A3}$ $\overline{B1}$ $\overline{M}$	0.500 — 0.970
P3	A3 $\overline{B1}$ $\overline{M}$	0.970 — 1.80
P4	A1 B1 $\overline{B4}$ $\overline{C1}$ $\overline{M}$	1.80 — 3.9
P5	A1 B4 ~~$\overline{B5}$~~ $\overline{C1}$ $\overline{M}$	3.9 — 8.0
P6	B5 A1 $\overline{M}$	8.0 — 14.0
P7	C4 B4 $\overline{B5}$ $\overline{M}$	14 — 26
P8	C4 B3 $\overline{B4}$ $\overline{M}$	26 — 46
P9	~~C4~~ C3 $\overline{C4}$ B3 $\overline{B4}$ $\overline{M}$	
P10	C2 $\overline{C3}$ B3 $\overline{M}$	
P11	C1 $\overline{B3}$ $\overline{C2}$ B_0	
α1	A4 $\overline{A5}$ $\overline{B1}$ $\overline{M}$	2.6 — 4.6
α2	A5 $\overline{B1}$ $\overline{M}$	4.6 — 7.4
α3	A4 B1 $\overline{B6}$ $\overline{M}$	7.4 — 17
α4	B6 ~~$\overline{B7}$~~ $\overline{C1}$ A_0 $\overline{M}$	17 — ~~26~~ 48
α5	B7 $\overline{C1}$ A2 $\overline{M}$	26 — 48
α6	C5 B6 $\overline{M}$	48 — 95
α7	C5 $\overline{B6}$ B4 $\overline{M}$	95 — 190
Z1	A6 $\overline{B1}$ $\overline{M}$	
Z2	A7 $\overline{B1}$ $\overline{M}$	
E4	B1 $\overline{A1}$ $\overline{B5}$ $\overline{C2}$ $\overline{M}$	
E5	B2 $\overline{A1}$ $\overline{B5}$ $\overline{C2}$ $\overline{M}$	
E6	B3 $\overline{A1}$ $\overline{B5}$ $\overline{C2}$ $\overline{M}$	
Z3	A8 $\overline{M}$	

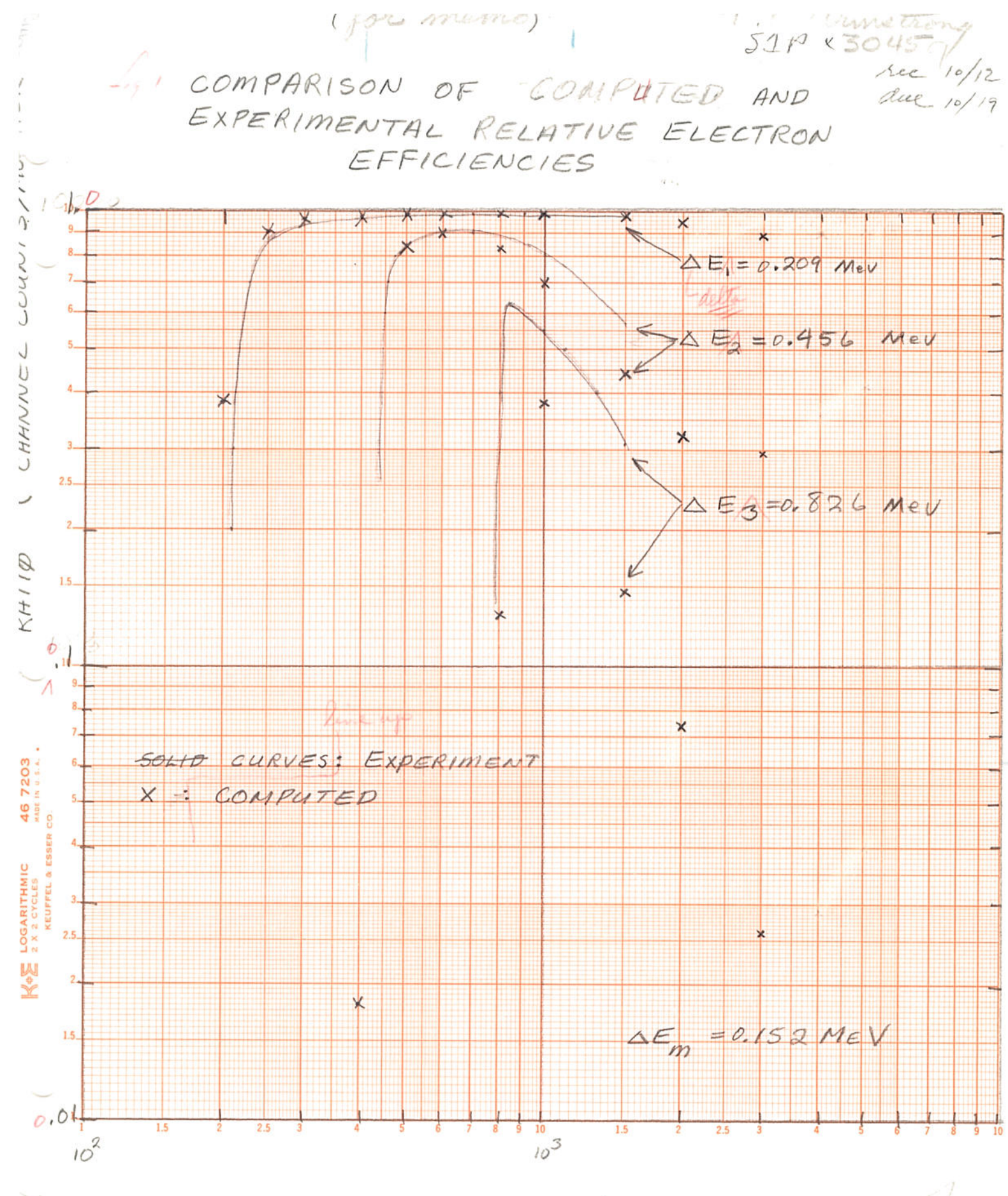

COMPARISON OF COMPUTED AND EXPERIMENTAL RELATIVE ELECTRON EFFICIENCIES
ΔE1 = 0.209 MeV
ΔE2 = 0.456 MeV
ΔE3 = 0.826 MeV
ΔEm = 0.152 MeV
SOLID CURVES: EXPERIMENT
X : COMPUTED
Energy (kev)

FIGURE 1