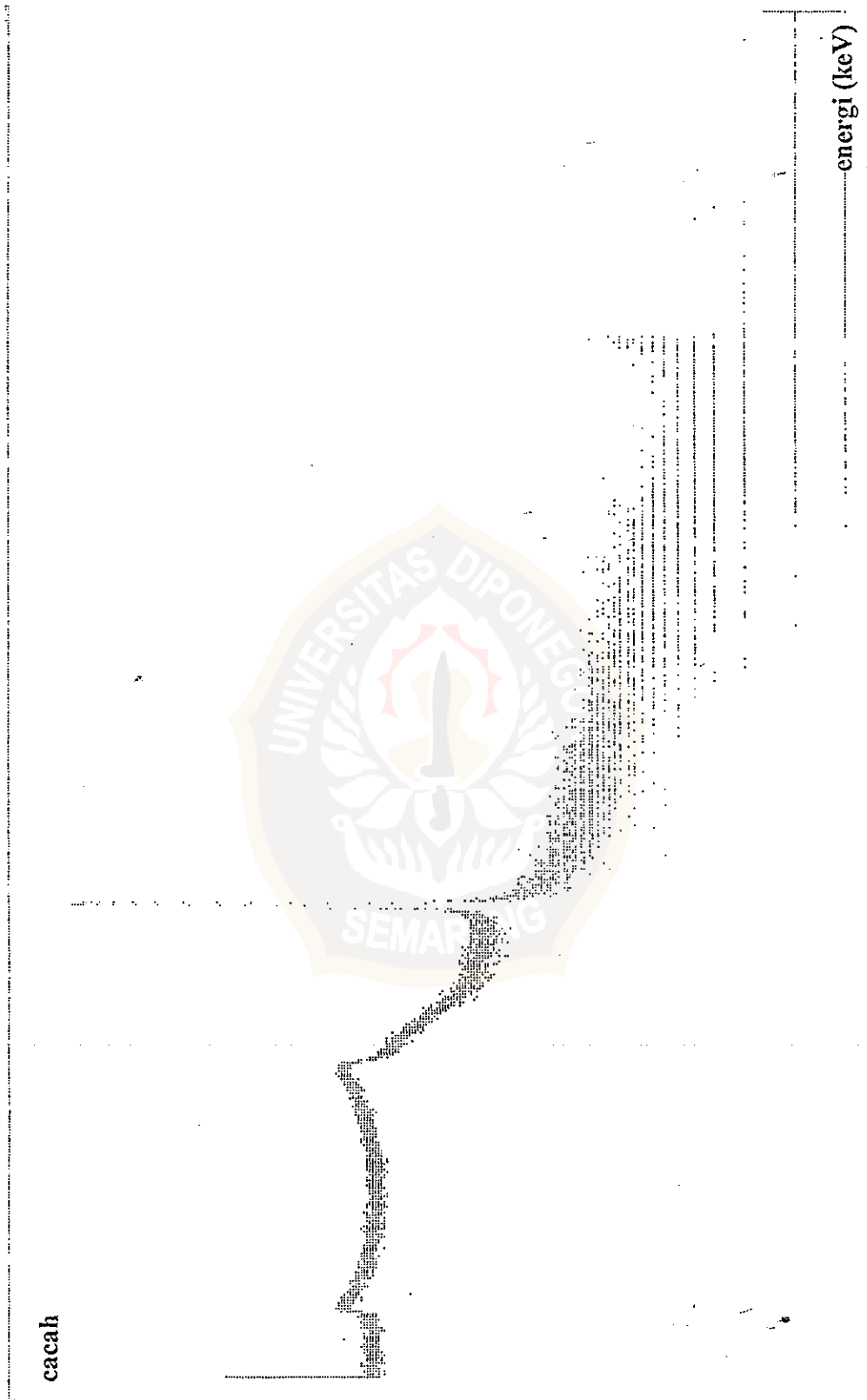


LAMPIRAN 1
SPEKTRUM PENCAHAHAN



1.1. Spektrum Pencacahan MCA Sistem Normal ORTEC



1.2. Spektrum Pencacahan MCA Anti Compton. ORTEC

C/1 PAUC CFS 16301/ALOG CC 1/ 102.549



1.4. Spektrum Pencacahan MCA Anti Compton NC-26R

C/1 PADC CBS 16394/1109 CC 1/ 104.102



LAMPIRAN 2
DATA PERHITUNGAN

2.1. Perhitungan Ralat Kelima PMT

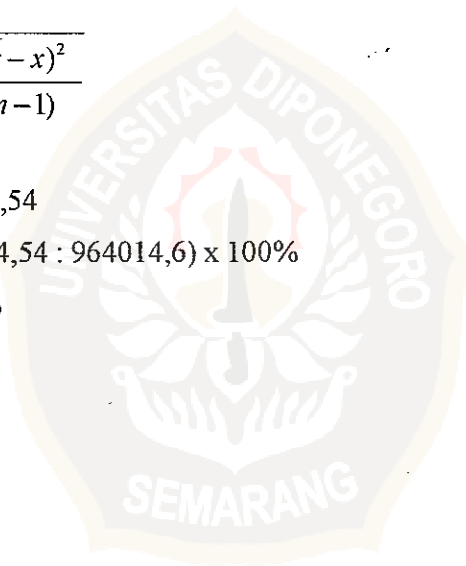
PMT	Cacah 15 menit (x)	\bar{x}	$(x - \bar{x})^2$
1	962876	964014,6	1296409,96
2	989142		631386230,80
3	929929		1161828127,00
4	950640		178879925,20
5	987486		550906618,00

$$S_x = \sqrt{\frac{\sum (x - \bar{x})^2}{n(n-1)}}$$

$$= 11234,54$$

Ralat rerata = $(11234,54 : 964014,6) \times 100\%$

$$= 1,12\%$$



2.2. Perhitungan T_{TCF} NaI(Tl) dan T_{ARC} HpGe ORTEC dan NC-26R

$$T_{TCF} = t_d + ftr$$

$$T_{ARC} = t_d / (1-f)$$

a. Modul ORTEC

$$\begin{aligned} T_{TCF} \text{ NaI(Tl)} &= 93 \text{ ns} + (0,2)(93 \text{ ns}) & T_{ARC} \text{ HpGe} &= 34 \text{ ns} / (1-0,2) \\ &= 111,6 \text{ ns} & &= 42,5 \text{ ns} \end{aligned}$$

b. Modul NC-26R

$$\begin{aligned} T_{ARC} \text{ HpGe} &= 34 \text{ ns} / (1-0,25) & T_{ARC} \text{ HpGe} &= 9 \text{ ns} / (1-0,25) \\ &= 45,3 \text{ ns} & &= 12 \text{ ns} \end{aligned}$$



2.3. Perhitungan Peak to Compton Ratio (P/C)

$$P/C = \frac{\text{cacah pada puncak fotolistrik}}{\text{cacah rerata daerah yang diukur}}$$

untuk daerah *edge* diambil dari energi 459 – 472 keV

untuk daerah *valley* diambil dari energi 358 - 382 keV

untuk daerah *backscatter* diambil dari energi 180 – 190 keV

Modul ORTEC

daerah	Normal			Anti Compton		
	Peak	Cacah total	P/C	Peak	Cacah total	P/C
<i>Edge</i>		33437	61,40		5496	363,92
<i>Valley</i>	31107	41698	92,50	30305	9548	393,65
<i>backscatter</i>		24897	64,98		10868	145

Modul NC-26R

daerah	Normal			Anti Compton		
	Peak	Cacah total	P/C	Peak	Cacah total	P/C
<i>Edge</i>		31364	36,63		5629	162,84
<i>Valley</i>	17148	38583	55,11	13740	8465	202,05
<i>backscatter</i>		22284	39,24		7735	90,22

Faktor Supresi (SF) = P/C (Anti Compton) : P/C (normal)

Modul	ORTEC	NC-26R
<i>Edge</i>	5,92	4,45
<i>Valley</i>	4,26	3,67
<i>backscatter</i>	2,23	2,30